

ADDENDUM NO. 3

to

CONTRACT DOCUMENTS

for

**AUBURN LEWISTON MUNICIPAL AIRPORT
COUNTY OF ANDROSCOGGIN
AUBURN, MAINE**

CONSTRUCT NEW T-HANGAR AND TAXILANE

FAA Project No. 3-23-0002-XXX-2024
MJ Project No. 19186.01

December 24, 2024

ADDENDUM NO. 3

**AUBURN LEWISTON MUNICIPAL AIRPORT
COUNTY OF ANDROSCOGGIN
AUBURN, MAINE**

CONSTRUCT NEW T-HANGAR AND TAXILANE

TABLE OF CONTENTS

1. Instructions
2. Questions
3. General Revisions/Clarifications to Contract Documents
4. Revisions/Clarifications to Technical Specifications
5. Revisions/Clarifications to Drawings
6. Addendum Attachments

1. INSTRUCTIONS TO ALL HOLDERS OF CONTRACT DOCUMENTS

TO ALL HOLDERS OF CONTRACT DOCUMENTS

Your attention is directed to the following interpretations of, changes and additions to the Contract Documents for the project, "Construct New T-Hangar and Taxilane" at Auburn Lewiston Municipal Airport (LEW) in Auburn, Maine.

This Addendum constitutes part of the Contract Documents. Should conflicts occur between the Specifications or Drawings with items in the Addendum, the Addendum shall govern. Bidders shall examine carefully all items and determine for themselves what sub-bidders are affected, and notify all bidders or sub-bidders of clarifications, interpretations, or revisions affecting their work. Work described in this Addendum shall be in accordance with specifications for like items unless stated otherwise.

Please indicate receipt of this addendum (including date) on sheet P-3 of your Bid Proposal.

2. Questions

Q1: We are having trouble with the curing compound specified in section 033000. An acrylic film-forming product is specified, which will prohibit the concrete sealer from penetrating the concrete. The acrylic product will have to be chemically stripped off the slab before applying the sealer. Ideally the new concrete would be water-cured. Please provide an updated specification and/or process for the concrete sealer.

A1: Any of the products listed in Specification 03 3000 Section 2.07 Curing Materials are acceptable.

Q2: There are going to be bifold doors with mandors in them. In this case, would those mandors come from the bifold manufacturer?

A2: The doors in the metal building system are provided as part of the metal building system package.

This is detailed in the Summary section of "13 3419 Metal Building Systems, under 1.2,B. Design, Furnish , and install the following:....8. Man Doors and frames (as specified under section 081113), 2.4 DOORS AND FRAMES A. Metal Doors and Frames under section 08 11 13- Hollow Metal Doors , and provided as a component of the work of this section 13 34 19, and 3.4 INSTALLATION - ACCESSOIRES C. Install passage doors, overhead doors, and bi-fold hangar doors in accordance with manufacturers instructions and as additional specified."

Q3: With the size of Addendum No. 2, can conformed specifications and plans we provided?

A3: This addendum re-issues conformed plans and specifications. See Section 3 General Specification Clarifications for more information.

3. GENERAL SPECIFICATION CLARIFICATIONS

I. Conformed Documents Clarification

This addendum includes attachments that are being revised with this addendum only. Under the plans section and specification section of the bid portal, a conformed set of plans and specifications are available for download that are current and include all the revisions made through this addendum, Addendum No. 3.

In the conformed documents, revisions to the specifications C-100 through X-800, and Divisions 03 through 13 are noted with a vertical line to the right of the section changed. Specification Divisions 23 – 26 were updated in Addendum 2 to remove named manufacturers per the FAA requirement. There a no vertical lines nor bolded text indicating this update. In Addendum 2, section 2.03.D.2 was updated to remove the "door-in-door trim with hinged cover" requirement.

In the conformed drawings, each sheet updated includes revision clouds around the updates and a note in the revision block regarding which addendum the revisions are included in.

II. Warranty Clarification

Warranties greater than one year stated in the Division 22-26 specifications are for the materials/products only. All work has a one-year warranty under the Contractor's Guarantee after substantial completion is met for labor and materials/product.

4. REVISIONS/CLARIFICATIONS TO CONTRACT DOCUMENTS

I. Contract Document Updates

A. Proposal Documents

DELETE existing Proposal Documents Pages P-1 through P-28 and REPLACE with Proposal Documents Pages P-1 through P-28 revised attached.

Clarification: Updated quantity for P-603-5.1 Tack Coat.

5. REVISIONS/CLARIFICATIONS TO TECHNICAL SPECIFICATIONS

III. 07 92 00 Joint Sealants

Clarification: Special installer's warranty removed per the FAA requirements. To accommodate removal of the warranty, testing of the sealant is added. Blank paragraphs in sections 2.1, 2.2.B.1 through 2.3.A.1 are blank in Addendum 3 as the requirements in these sections was removed in Addendum 2.

IV. 22 0529 Hangars and Supports for Plumbing Piping and Equipment

Clarification: Manufacturers removed per the FAA requirements.

6. REVISIONS/CLARIFICATIONS TO DRAWINGS

I. DRAWINGS

A. DRAWING C-002 – Quantities

DELETE existing drawing C-002 and REPLACE with revised drawing C-002 attached.

Clarification: Updated P-603-5.1 Quantity

B. DRAWING C-010 – Layout Plan

DELETE existing drawing C-010 and REPLACE with revised drawing C-010 attached.

Clarification: P-403 updated to be placed in (1) – 3" lift with no tack coat. FAA's P-403 gradation selection in Table 2 requires a minimum lift thickness of 2 inches. Because of this, the coarser gradation in Table 2 that requires a minimum 2-inch lift thickness is required. As the pavement section requires 3-inches of hot mix asphalt, the contract documents are revised to a single 3-inch lift thickness to meet the FAA's minimum 2-inch lift thickness requirement.

C. DRAWING C-011 – Layout Details

DELETE existing drawing C-011 and REPLACE with revised drawing C-011 attached.
Clarification: P-403 updated to be placed in (1) – 3” lift with no tack coat. Pavement Transition Joint Detail updated.

D. DRAWING C-012 – Typical Section and Pavement Details

DELETE existing drawing C-012 and REPLACE with revised drawing C-012 attached.
Clarification: P-403 updated to be placed in (1) – 3” lift with no tack coat.

E. DRAWING C-026 – Cross Sections (Sheet 1 of 2)

DELETE existing drawing C-026 and REPLACE with revised drawing C-026 attached.
Clarification: P-403 updated to be placed in (1) – 3” lift with no tack coat.

F. DRAWING C-027 – Cross Sections (Sheet 2 of 2)

DELETE existing drawing C-027 and REPLACE with revised drawing C-027 attached.
Clarification: P-403 updated to be placed in (1) – 3” lift with no tack coat.

END OF ADDENDUM NO. 3

CONTRACT DOCUMENTS

PROPOSAL DOCUMENTS

for

CONSTRUCT NEW T-HANGAR AND TAXILANE

**AUBURN-LEWISTON MUNICIPAL AIRPORT
AUBURN, MAINE**

**AIP No. 3-23-0002-xxx-2024
MJ# 19186.01**

PREPARED FOR:

**AUBURN-LEWISTON MUNICIPAL AIRPORT
AUBURN, MAINE**

PREPARED BY:



**53 Regional Drive
Concord, NH 03301
Phone: (603) 225-2978
Fax: (603) 225-0095**

NOVEMBER 2024

THIS PAGE INTENTIONALLY LEFT BLANK

PROPOSAL FORM

CONSTRUCT NEW T-HANGAR AND TAXILANE

AUBURN-LEWISTON MUNICIPAL AIRPORT AUBURN, MAINE

AIP No. 3-23-0002-XXX-2024
MJ# 19186.01

Date: _____

To: AUBURN-LEWISTON MUNICIPAL AIRPORT

The undersigned (hereinafter called the Contractor) proposes to furnish all labor, equipment and materials required for “**CONSTRUCT NEW T-HANGAR AND TAXILANE**” in accordance with the accompanying Contract Documents as defined in the Supplemental General Provisions and prepared by McFarland Johnson, Inc., for the amounts listed below, subject to additions and deductions in accordance with the terms of the Specifications. It being understood that the Owner will be the sole judge as to acceptance of Bids and award of the Contract.

Bidder agrees to complete the work under this Contract within the time specified in the Invitation to Bid.

B. This Bid includes addenda:

<u>Number</u>	<u>Date</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

C. Bidders agree to perform all of the work described in the Contract Documents and tabulated below for the following unit and lump sum prices.

It is understood that the quantities given in this Bid Form are approximate only and are given as a basis for comparison of Bids. The Owner does not expressly or by implication agree that the actual amount of work will even approximately correspond herewith, but reserves the right to increase or decrease the amount of any item of the work listed, and the unit prices quoted in the Bid shall apply without change to such variation in the quantity of each of the items, except as further clarified herein. The Owner further reserves the right to delete any item of work in whole or in part, in order to meet the available funding.

SCHEDULE A BASE BID (T-HANGAR SITE PLAN WITHOUT RESTROOM, WATER AND SEWER) PROPOSAL FORM

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
B-001-1	1 LS	<u>T-Hangar Building - Architectural</u> for the Lump Sum of: _____ _____ dollars and _____ cents.				
B-001-2	1 LS	<u>T-Hangar – Foundation and Slab</u> for the Lump Sum of: _____ _____ dollars and _____ cents.				
B-001-3	1 LS	<u>T-Hangar - Electrical</u> for the Lump Sum of: _____ _____ dollars and _____ cents.				
B-001-4	1 LS	<u>T-Hangar – General Bid</u> for the Lump Sum of: _____ _____ dollars and _____ cents.				
C-105	1 LS	<u>Mobilization (10% Maximum)</u> for the Lump Sum Price of: _____ _____ dollars and _____ cents.				

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
M-150-1	1 LS	<u>Field Survey and Stakeout</u> for the Lump Sum Price of: _____ _____ dollars and _____ cents.				
M-200-1	1 LS	<u>Maintenance and Protection of Traffic</u> for the Lump Sum Price of: _____ _____ dollars and _____ cents.				
M-300-1	1,600 SF	<u>Grassed Soil Filter System</u> for the unit price per Square Feet of: _____ _____ dollars and _____ cents.				
C-100	1 LS	<u>Contractors Quality Control Program</u> for the Lump Sum Price of: _____ _____ dollars and _____ cents.				
C-102-5.1a	1 EA	<u>Installation and Removal of Pipe Inlet Protection</u> for the unit price per Each of: _____ _____ dollars and _____ cents.				

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
C-102-5.1b	2,560 LF	<u>Installation and Removal of Erosion Control Barrier</u> for the unit price per Linear Feet of: _____ _____ dollars and _____ cents.				
C-102-5.1c	6 EA	<u>Installation and Removal of Check Dam</u> for the unit price per Each of: _____ _____ dollars and _____ cents.				
C-102-5.1d	3,400 SY	<u>Installation of Erosion Control Matting</u> for the unit price per Square Yard of: _____ _____ dollars and _____ cents.				
C-102-5.1e	7 EA	<u>Installation and Removal of Inlet Protection</u> for the unit price per Each of: _____ _____ dollars and _____ cents.				
C-102-5.1f	110 CY	<u>Installation of Stone Slope with Geotextile</u> for the unit price per Cubic Yard of: _____ _____ dollars and _____ cents.				

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
P-101-5.1	800 SY	<u>Pavement Removal</u> for the unit price per Square Yard of: _____ _____ dollars and _____ cents.				
P-101-5.6	225 SY	<u>Cold Milling (0-4")</u> for the unit price per Square Yard of: _____ _____ dollars and _____ cents.				
P-151-4.1	0.10 AC	<u>Clearing and Grubbing</u> for the unit price per Acre of: _____ _____ dollars and _____ cents.				
P-151-4.2	5 EA	<u>Remove Utility Poles</u> for the unit price Each of: _____ _____ dollars and _____ cents.				
P-152-4.1	5,100 CY	<u>Unclassified Excavation</u> for the unit price per Cubic Yard of: _____ _____ dollars and _____ cents.				

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
P-152-4.2	4,000 CY	<u>Embankment In Place</u> for the unit price per cubic yard of: _____ dollars and _____ cents.				
P-154-5.1	4,270 CY	<u>Subbase Course</u> for the unit price per cubic yard of: _____ dollars and _____ cents.				
P-209-5.1	1,120 CY	<u>Crushed Aggregate Base Course – 6” Depth</u> for the unit price per cubic yard of: _____ dollars and _____ cents.				
P-403-8.1	1,300 TON	<u>Asphalt Mixture Surface Course</u> for the unit price per ton of: _____ dollars and _____ cents.				
P-603-5.1	50 GAL	<u>Emulsified Asphalt Tack Coat</u> for the unit price per gallon of: _____ dollars and _____ cents.				

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
P-605-5.1	490 LF	<u>Joint Sealing Filler</u> for the unit price per Linear Foot of: _____ _____ dollars and _____ cents.				
P-620-5.1	810 SF	<u>Markings</u> for the unit price per square foot of: _____ _____ dollars and _____ cents.				
P-620-5.2	50 LB	<u>Reflective Media</u> for the unit price per pound of: _____ _____ dollars and _____ cents.				
F-162-5.1	770 LF	<u>Remove Chain Link Fence</u> for the unit price per Linear Foot of: _____ _____ dollars and _____ cents.				
F-162-5.2	910 LF	<u>Chain Link Fence</u> for the unit price per Linear Foot of: _____ _____ dollars and _____ cents.				

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
T-901-5.1	150 KSF	<u>Seeding</u> for the unit price per Kilo-Square Foot of: _____ _____ dollars and _____ cents.				
T-905-5.1	1,000 CY	<u>Topsoil (Obtained on Site or Removed from Stockpile)</u> for the unit price per cubic yard of: _____ _____ dollars and _____ cents.				
T-908-5.1	16,700 SY	<u>Mulching</u> for the unit price per square yard of: _____ _____ dollars and _____ cents.				
D-701-5.1a	35 LF	<u>6 Inch CPE Pipe</u> for the unit price per Linear Foot of: _____ _____ dollars and _____ cents.				
D-701-5.1b	90 LF	<u>12 Inch Reinforced Concrete Pipe</u> for the unit price per Linear Foot of: _____ _____ dollars and _____ cents.				

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
D-705-5.2	2 EA	<u>Cut and Cap Underdrain Cleanout</u> for the unit price Each of: _____ _____ dollars and _____ cents.				
D-752-5.1	1 EA	<u>Headwall</u> for the unit price Each of: _____ _____ dollars and _____ cents.				
D-752-5.2	1 EA	<u>Flared End Section</u> for the unit price Each of: _____ _____ dollars and _____ cents.				
L-108-5.1	1,400 LF	<u>No. 8 AWG 5kV L-824 Type C Cable Installed in Trench or Duct Bank</u> for the unit price per Linear Foot of: _____ _____ dollars and _____ cents.				
L-108-5.2	2,800 LF	<u>No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed in trench including connections/terminations</u> for the unit price per Linear Foot of: _____ _____ dollars and _____ cents.				

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
L-108-5.3	4,100 LF	<u>No. 1/0 AWG 600V Thwn-2 Type C Cable, installed in duct bank or conduit</u> for the unit price per Linear Foot of: _____ _____ dollars and _____ cents.				
L-108-5.4	1,400 LF	<u>No. 1/0 AWG, Stranded, Equipment Ground, Installed in Duct Bank or Conduit</u> for the unit price per Linear Foot of: _____ _____ dollars and _____ cents.				
L-108-5.5	9 EA	<u>Additional Ground Rods</u> for the unit price per Each of: _____ _____ dollars and _____ cents.				
L-110-5.1	1300 LF	<u>Non-Encased Electrical Duct Bank, 1-way 2-inch</u> for the unit price per Linear Foot of: _____ _____ dollars and _____ cents.				
L-110-5.2	100 LF	<u>Concrete Encased Electrical Duct Bank, 4-way 4-inch</u> for the unit price per Linear Foot of: _____ _____ dollars and _____ cents.				

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
L-110-5.3a	1,500 LF	<u>Removal and Disposal of Direct Buried Cable</u> for the unit price per Linear Foot of: _____ _____ dollars and _____ cents.				
L-110-5.3b	600 LF	<u>Removal and Disposal of Conduit</u> for the unit price per Linear Foot of: _____ _____ dollars and _____ cents.				
L-110-5.4	540 LF	<u>Non-Encased Electrical Duct Bank, 2-way 4-inch</u> for the unit price per Linear Foot of: _____ _____ dollars				
L-115-5.1	2 EA	<u>Remove Existing Electric Handhole</u> for the unit price Each of: _____ _____ dollars and _____ cents.				
L-115-5.2	1 EA	<u>Remove and Dispose Duct Marker</u> for the unit price Each of: _____ _____ dollars and _____ cents.				

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
L-115-5.3	4 EA	<u>Install L-867E Electric Handhole in Turf</u> for the unit price Each of: _____ _____ dollars and _____ cents.				
L-115-5.4	2 EA	<u>Install 4’x4’ Concrete Junction Structure in Turf</u> for the unit price Each of: _____ _____ dollars and _____ cents.				
L-115-5.5	1 EA	<u>Install 4’x4’ Load Rated Concrete Junction Structure in Proposed Pavement</u> for the unit price Each of: _____ _____ dollars and _____ cents.				
L-125-5.1	2 EA	<u>Airfield Signage (L-858 LED, Size 2) With Foundation with L-830 Transformer</u> for the unit price Each of: _____ _____ dollars and _____ cents.				
L-125-5.2	9 EA	<u>Base Mounted Taxiway Edge Lights (L861T LED) With L-830 Transformer</u> for the unit price Each of: _____ _____ dollars and _____ cents.				

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
L-125-5.3	4 EA	<u>Remove and Relocate Existing Base-Mounted Taxiway Edge Light and Base</u> for the unit price Each of: _____ dollars and _____ cents.				
L-125-5.4	28 EA	<u>Retroreflective Taxiway Edge Marker (L-853)</u> for the unit price Each of: _____ dollars and _____ cents.				
33 4100-1	750 LF	<u>Underdrain Pipe and Fittings</u> for the unit price per Linear Foot of: _____ dollars and _____ cents.				
X-600-1	1 ALL	<u>Replace Unknown Communication and Electric Cables</u> for the Allowance of: _____ <u>Two thousand</u> dollars and _____ <u>Zero</u> cents.	\$2,000	00	\$2,000	00
X-600-2	1 ALL	<u>Investigate depth of Gas Line</u> for the Allowance of: _____ <u>One thousand five hundred</u> dollars and _____ <u>Zero</u> cents	\$1,500	00	\$1,500	00

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
X-600-3	1 ALL	<u>Service Connection Coordination with CMP (Taxilane & Service Road) for the Allowance of:</u> _____ One thousand _____ dollars and _____ Zero _____ cents	\$1,000	00	\$1,000	00
X-600-4	1 ALL	<u>Service Connection Coordination with CMP (T-Hangar) for the Allowance of:</u> _____ One thousand _____ dollars and _____ Zero _____ cents	\$1,000	00	\$1,000	00
X-600-5	1 ALL	<u>Service Connection Coordination with Comm Provider (Taxilane & Service Road) for the Allowance of:</u> _____ One thousand _____ dollars and _____ Zero _____ cents	\$1,000	00	\$1,000	00
X-800-1	1 EA	<u>Permanent Vehicle Traffic Sign for the unit price Each of:</u> _____ _____ dollars and _____ cents.				

**SCHEDULE A PROPOSAL BASE BID (SITE PLAN WITHOUT RESTROOM,
WATER AND SEWER) SUBTOTAL**

SCHEDULE A BASE BID SUBTOTAL: _____

_____ (Words)

_____ dollars and

_____ cents (\$ _____).
(Figures)

Note: Also record this Bid amount on the Bid Summary Sheet (page P-25)

SCHEDULE A ADDITIVE ALTERNATE #1 (MOTORIZED VEHICLE GATE)
PROPOSAL FORM

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
C-105	1 LS	<u>Mobilization (10% Maximum) for the Lump Sum Price of:</u> _____ _____ dollars and _____ cents.				
P-101-5.1	100 SY	<u>Pavement Removal for the unit price per Square Yard of:</u> _____ _____ dollars and _____ cents.				
P-101-5.6	110 SY	<u>Cold Milling (0-4") for the unit price per Square Yard of:</u> _____ _____ dollars and _____ cents.				
P-152-4.1	20 CY	<u>Unclassified Excavation for the unit price per Cubic Yard of:</u> _____ _____ dollars and _____ cents.				
P-209-5.1	20 CY	<u>Crushed Aggregate Base Course – 6" Depth for the unit price per Cubic Yard of:</u> _____ _____ dollars and _____ cents.				

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
P-403-8.1	20 TON	<u>Asphalt Mixture Surface Course</u> for the unit price per Ton of: _____ _____ dollars and _____ cents.				
P-603-5.1	10 GAL	<u>Emulsified Asphalt Tack Coat</u> for the unit price per Gallon of: _____ _____ dollars and _____ cents.				
P-605-5.1	40 LF	<u>Joint Sealing Filler</u> for the unit price per Linear Foot of: _____ _____ dollars and _____ cents.				
F-162-5.3	1 EA	<u>Vehicle Gate</u> for the unit price per Each of: _____ _____ dollars and _____ cents.				

SCHEDULE A ADDITIVE ALTERNATE #1 (MOTORIZED VEHICLE GATE)
PROPOSAL SUBTOTAL

SCHEDULE A ADDITIVE ALTERNATE #1 SUBTOTAL: _____

(Words)

_____ dollars and

_____ cents (\$ _____).
(Figures)

Note: Also record this Bid amount on the Bid Summary Sheet (page P-25).

SCHEDULE B BASE BID (RESTROOM, WATER AND SEWER) PROPOSAL FORM

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
C-105	1 LS	<u>Mobilization (10% Maximum) for the Lump Sum Price of:</u> _____ _____ dollars and _____ cents.				
B-001-5	1 LS	<u>Restroom Architectural for the Lump Sum of:</u> _____ _____ dollars and _____ cents.				
B-001-6	1 LS	<u>Restroom Plumbing for the Lump Sum of:</u> _____ _____ dollars and _____ cents.				
B-001-7	1 LS	<u>Restroom Electrical for the Lump Sum of:</u> _____ _____ dollars and _____ cents.				
B-001-8	1 LS	<u>Restroom General Bid for the Lump Sum of:</u> _____ _____ dollars and _____ cents.				

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
31 2316.26	3 CY	<u>Trench Rock Removal</u> for the unit price per Cubic Yard of _____ _____ dollars and _____ cents.				
33 3113-1	280 LF	<u>Sewer Pipe and Fittings (4" PVC)</u> for the unit price per Linear Foot of _____ _____ dollars and _____ cents.				
33 3113-2	2 EA	<u>Sewer Cleanouts</u> for the unit price per Each of: _____ _____ dollars and _____ cents.				
33 3113-3	1 EA	<u>Sewer Manhole Connection</u> for the unit price per Each of: _____ _____ dollars and _____ cents.				
33 3113-4	1 ALL	<u>Sewer Connection Fee</u> for the unit price per Allowance of: _____ dollars and _____ cents	\$1,000	00	\$1,000	00

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
33 0561-1	1 EA	<u>Concrete Manholes(Sewer)</u> for the unit price per Each of: _____ _____ dollars and _____ cents.				
33 1416-1	180 LF	<u>Water Pipe and Fittings(1")</u> for the unit price per Linear Foot of: _____ _____ dollars and _____ cents.				
33 1416-2	1 EA	<u>Water Valves(water curb stop with box)</u> for the unit price per Each of: _____ _____ dollars and _____ cents.				
33 1416-3	1 ALL	<u>Municipal Water Connection Fee</u> for the unit price per Allowance of: _____ <u>One thousand</u> _____ dollars and _____ <u>Zero</u> _____ cents	\$1,000	00	\$1,000	00
P-403-8.1	4 TON	<u>Asphalt Mixture Surface Course (3" depth) (Flight Line Drive Utilities)</u> for the unit price per Ton of: _____ _____ dollars and _____ cents.				

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
P-209-5.1	5 CY	<u>Crushed Aggregate Base Course (6" depth) (Flight Line Drive Utilities)</u> for the unit price per Cubic Yard of: _____ _____ dollars and _____ cents.				
P-154-5.1	8 CY	<u>Subbase Course (12" depth) (Flight Line Drive Utilities)</u> for the unit price per Cubic Yard of: _____ _____ dollars and _____ cents.				

SCHEDULE B BASE BID (RESTROOM, WATER, AND SEWER) PROPOSAL
SUBTOTAL

SCHEDULE B BASE BID SUBTOTAL: _____

_____ (Words)

_____ dollars and

_____ cents (\$ _____).
 (Figures)

Note: Also record this Bid amount on the Bid Summary Sheet (page P-25).

BID SUMMARY SHEET

SCHEDULE A BASE BID SUBTOTAL AMOUNT: \$ _____
(FROM PAGE P-17)

SCHEDULE A ADDITIVE ALTERNATE #1 SUBTOTAL AMOUNT: \$ _____
(FROM PAGE P-19)

SCHEDULE B BASE BID SUBTOTAL AMOUNT: \$ _____
(FROM PAGE P-23)

TOTAL BID AMOUNT: \$ _____
(Schedule A, Schedule A Additive Alternate #1, Schedule B_

The Owner reserves the right to award the project in accordance with Specification entitled Award of Contract and Execution of Contract Bonds.

The Owner reserves the right to delete any item of work in whole or in part, in order to meet the available funding.

Amounts are to be shown in both words and figures. In case of Discrepancy, the amount shown in words will govern.

The above unit prices shall include all labor, materials, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

Bidder proposes to provide all labor and materials to complete the work, as specified in the Contract Documents, and as is reasonably expected due to the existing conditions and required construction.

Bidder understands that the Owner reserves the right to reject any or all Bids and to waive any informalities in the Bidding. The Bidder agrees that this Bid shall be good and may not be withdrawn for the period as specified in the Invitation to Bid.

The undersigned further certifies under the penalties of perjury that this Bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

The undersigned hereby certifies that they are able to furnish labor that can work in harmony with all other elements of labor employed, or to be employed on the work, and that they will comply fully with all laws and regulations applicable to award of this contract.

The undersigned agrees that if they are selected as the Contractor they will, within five (5) calendar days, after presentation thereof by the Owner, unless otherwise directed in writing by the Owner, execute a Contract in accordance with the terms of this General Bid and furnish a Performance Bond for 100% of the Contract Price and Payment Bond for 100% of the Contract Price, each of a Surety company meeting the requirements contained in the Contract Documents and satisfactory to the Owner, the premiums of which are to be paid by the Contractor and are included in the Contract amount.

The undersigned agrees to guarantee all of the work performed under this Contract to be done in accordance with the Contract Documents in a good and workmanlike manner and to renew or repair any work which may be rejected, due to defective materials or workmanship, prior to final completion and acceptance of the work.

The Bid Security attached in the sum of \$_____ is to become the property of the Owner, in the event the Contract and Bond are not executed within the time above set forth, as liquidated damages for the delay and additional expense to the Owner causes thereby.

Respectively Submitted By:

Company Name

Address

Name of Authorized Signature

Signature

Title

Date

(SEAL - if Bid is by a corporation)

THIS PAGE INTENTIONALLY LEFT BLANK

TECHNICAL SPECIFICATIONS

Section 07 9200
JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. General: The work of this Section consists of sealants and backing materials, where shown on the Drawings, as specified herein, and as required for a complete and proper installation.
 - 1. This Section specifies general requirements, definition of joint sealer types, and application requirements for sealant work specified within other individual specification sections.
- B. Prepare sealant substrate surfaces.
- C. Furnish and install sealant and backing materials.

1.2 RELATED REQUIREMENTS

- A. Section 07 8400 - FIRESTOPPING: Firestopping sealants and related backing materials.
- B. Section 09 2900 - GYPSUM BOARD: Application of concealed acoustical sealant used in conjunction with gypsum board work at abutting surfaces (perimeter of partitions and walls).
- C. Section 09 9100 - PAINTING: Caulks used in preparation of applied finish coatings.
- D. Section 13 3419 - METAL BUILDING SYSTEMS
 - 1. Sealant used in conjunction with sheet metal roofing system.
 - 2. Sealant integral with flashing.

1.3 REFERENCES

- A. The standards referenced herein are included to establish recognized quality only. Equivalent quality and testing standards will be acceptable, subject to their timely submission, review and acceptance by the Architect.
- B. Reference Standards: Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 4200 - REFERENCES. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.
 - 1. ASTM C717 - Standard Terminology of Building Seals and Sealants.
 - 2. ASTM C790 – Guide for Use of Latex Sealants
 - 3. ASTM C804 - Use of Solvent-Release Type Sealants.
 - 4. ASTM C834 - Latex Sealing Compounds.
 - 5. ASTM C919 - Use of Sealants in Acoustical Applications.

6. ASTM C920 - Elastomeric Joint Sealants.
 7. ASTM C962 - Use of Elastomeric Joint Sealants.
 8. ASTM C1193 - Guide for Use of Joint Sealants.
 9. ASTM C1521 - Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints
 10. ASTM D1056 - Flexible Cellular Materials - Sponge or Expanded Rubber.
 11. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings
 12. **ASTM C794 - standard test method for adhesion-in-peel of elastomeric joint sealants; 2018 (reapproved 2022). [ADD 03]**
 13. **ASTM C1248 - standard test method for staining of porous substrate by joint sealants; 2022. [ADD 03]**
 14. **ASTM C1521 - standard practice for evaluating adhesion of installed weatherproofing sealant joints; 2019 (reapproved 2020). [ADD 03]**
- C. Inclusionary References: The following reference materials are hereby made a part of this Section by reference thereto:
1. SWRI – Sealant and Caulking Guide Specification.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Pre-construction Conference:
1. General Contractor and **ALL** subcontractors, installers, applicators, and vendors are required to have authorized representatives in attendance at mandatory Pre-Construction Conference. This conference specified under Document 00 80 13 – CONSTRUCTION SAFETY AND PHASING PLAN (CSPP) is mandated by the FAA and is a review of operational, safety, and performance requirements for the Project. The following subjects will be covered:
 - a. Project Overview
 - b. Labor requirements
 - c. Operation Safety Items
 - d. Construction
 - e. Temporary Facilities and Controls
 - f. Project Closeout:
 - g. The Contractor will be reminded to prepare and submit the required Safety Plan Compliance Document (SPCD) prior to beginning construction.

1.5 SUBMITTALS

- A. Information and Review Submittals: Submit the following under provisions of Section 01 3000 – ADMINISTRATIVE REQUIREMENTS:
1. Product Data: Manufacturer's product data sheets, specifications, performance data, chemical and physical properties and installation instructions for each item furnished hereunder.

2. Selection Samples: Sample card indicating Manufacturer's full range of colors available for selection by Architect.
3. Verification Samples: 12 inch long samples of sealant for verification of color, installed where directed by Architect.
4. Certificates: Manufacturer's certification that the Products supplied meet or exceed specified requirements.
5. Test and Evaluation Reports:
 - a. Compatibility and adhesion test reports: Test reports from sealant manufacturer indicating that sealant proposed for use have been tested for compatibility and adhesion with actual samples of substrates to be used on this project. Include sealant manufacturer's interpretation of test results, and recommendations for primers and substrate preparation specific to this Project.
- B. Closeout Submittals: Submit the following under provisions of Section 01 7800 - CLOSEOUT SUBMITTALS.
 1. Bonds and Warranty Documentation: Manufacturer's standard Warranties and Guarantees.

1.6 QUALITY ASSURANCE

- A. General: Notify the Architect where conflicts apply between referenced standards and existing materials, and existing methods of construction.
- B. Buy American Preference
 1. All work of this Section shall be in compliance with 49 USC § 50101, BABA and other related Made in America Laws (Per Executive Order 14005 "Made in America Laws" means all statutes, regulations, rules, and Executive Orders relating to federal financial assistance awards or federal procurement, including those that refer to "Buy America" or "Buy American," that require, or provide a preference for, the purchase or acquisition of goods, products, or materials produced in the United States), U.S. statutes, guidance, and FAA policies, which provide that Federal funds may not be obligated unless all manufactured goods used for this Projects shall be produced in the United States, and be certified as "Made in America".
- C. Sole Source: Provide sealants from a single manufacturer for all work of this Section to the greatest extent possible. Each individual type of sealant installed in the Work shall be from a single manufacturer.
- D. Qualifications:
 1. Installer/Applicator: Minimum of 3 years documented experience demonstrating previously successful work of the type specified herein.
- E. **Preconstruction Laboratory Testing: Arrange for sealant manufacturer(s) to test joint sealant installations complying with ASTM C1193. Adhesion Testing: In accordance with ASTM C794.**
 1. **Compatibility Testing: In accordance with ASTM C1087.**

2. **Stain Testing:** In accordance with ASTM C1248; required only for stone substrates.
 3. **Allow sufficient time for testing to avoid delaying the work.**
 4. **Deliver sufficient samples to manufacturer for testing.**
 5. **Report manufacturer's recommended corrective measures, if any, including primers or techniques not indicated in product data submittals.**
- F. Preinstallation Field Adhesion Test Plan:** Include destructive field adhesion testing of one sample of each combination of sealant type and substrate, except interior acrylic latex sealants, and include the following for each tested sample.
1. **Identification of testing agency. Preinstallation Field Adhesion Test Log Form:** Include the following data fields, with known information filled out.
 2. **Test date.**
 3. **Location on project.**
 4. **Sealant used.**
 5. **Stated movement capability of sealant.**
 6. **Test method used.**
 7. **Date of installation of field sample to be tested.**
 8. **Date of test.**
 9. **Copy of test method documents.**
 10. **Age of sealant upon date of testing.**
 11. **Test results, modeled after the sample form in the test method document.**
 12. **Indicate use of photographic record of test.**
- G. Field Adhesion Test Procedures:**
1. **Allow sealants to fully cure as recommended by manufacturer before testing.**
 2. **Have a copy of the test method document available during tests.**
 3. **Record the type of failure that occurred, other information required by test method, and the information required on the Field Quality Control Log.**
 4. **When performing destructive tests, also inspect the opened joint for proper installation characteristics recommended by manufacturer, and report any deficiencies.**

5. **Deliver the samples removed during destructive tests in separate sealed plastic bags, identified with project, location, test date, and test results, to Owner.**
 6. **If any combination of sealant type and substrate does not show evidence of minimum adhesion or shows cohesion failure before minimum adhesion, report results to Architect.**
- H. Destructive Field Adhesion Test: Test for adhesion in accordance with ASTM C1521, using Destructive Tail Procedure.**
1. **Sample: At least 18 inches (457 mm) long.**
 2. **Minimum Elongation Without Adhesive Failure: Consider the tail at rest, not under any elongation stress; multiply the stated movement capability of the sealant in percent by two; then multiply 1 inch (25.4 mm) by that percentage; if adhesion failure occurs before the 1-inch mark is that distance from the substrate, the test has failed.**
 3. **If either adhesive or cohesive failure occurs before minimum elongation, take necessary measures to correct conditions and retest; record each modification to products or installation procedures. [ADD 3]**

1.7 DELIVERY, STORAGE AND HANDLING

- A. Each container and package must bear an unbroken seal, test number and label of the manufacturer upon delivery to the site. Failure to comply with these requirements shall be sufficient cause for rejection of the material in question, by the Architect and his requiring its removal from the site. New material conforming to said requirements, shall be promptly furnished at no additional cost to the Contract.
- B. Store sealants within sealant manufacturer's recommended optimum temperature range for at least 16 hours before use. Store backer rod and bond breaker tape in clean dry areas at 70 deg. F so that will not become damp, wet, or frost covered

1.8 SITE CONDITIONS

- A. Do not install single component solvent curing sealant in enclosed building spaces.
- B. Environmental Requirements: Maintain temperature and humidity recommended by the sealant manufacturer during and 24 hours after installation. Do not proceed with installation of joint sealers under the following conditions:
 1. When ambient and substrate temperature conditions are below 40 degrees F.
 2. When joint substrates are wet due to rain, frost, condensation, or other causes.
- C. Do not proceed with installation of joint sealers until contaminants capable of interfering with their adhesion are removed from substrates.

1.9 WARRANTY

- A. General: Submit manufacturer's warranties under provisions of Section 01 7800 - CLOSEOUT SUBMITTALS.
- B. Manufacturer's warranties shall guarantee sealants installed are free of manufacturing defects and conforms to the published physical properties and referenced standards effective at time of installation.
 - 1. Sealant performance: Manufacturer's warranties shall include coverage for the following listed failures, when sealants are applied in accordance with manufacturer's written instructions. Warranty to include coverage for:
 - a. Sealant will not become brittle, tear or crack due to normal exposure or normal expansion or contraction.
 - 2. Warranty period:
 - a. Silicone sealants on vertical surfaces: 20 years.
 - 3. Special Manufacturer's Warranty - Five years from date of Substantial Completion manufacturer agrees to furnish material only to repair or replace those joint sealants that do not comply with the performance or other specified requirements in the Section. Warranty: Include coverage of installed sealants that fail to achieve air tight and watertight seal, exhibit loss of cohesion or adhesion, or do not cure. Include coverage of sealants that revert to an uncured state. Warranty shall be transferable with no dollar limit and shall be non-pro-rated. Warranty shall not require Owner's signature to be effective.

[ADD 03]

PART 2 - PRODUCTS

2.1

2.2 SEALANT MATERIALS

- A. Sealant Materials, General Requirements:
 - 1. Only use sealant and primers that comply with the following limits for VOC content:
 - a. Architectural Sealants: 250 g/L.
 - b. Roofing Sealants: 420 g/L.
 - c. Roadway Sealants: 250 g/L.
 - d. Sealant primer: 250 g/L.
 - 2. Sealants containing aromatic solvents, fibrous talc, formaldehyde, halogenated solvents, mercury, lead, cadmium, chromium and their compounds, are not permitted.
- B. Joint Sealer Type AA (Acrylic acoustical): One component acrylic latex, permanently elastic, non-staining, non-shrinking, non-migrating and paintable.

- 1.
- C. Joint Sealer Type AP (Acrylic Painters caulk): One component acrylic latex caulking compound, conforming to ASTM C 834 Type P, Grade NF, paintable within 24 hours after application, with a minimum movement capability of ± 12.5 percent. **[ADD 02]**
 - 1.
- D. Joint Sealer Type BL (Butyl): Gun-grade modified butyl and polyisobutylene sealant, conforming to ASTM C-834, with a movement capability of ± 10 percent or better and a Shore A hardness of 24 to 28.
 - 1.
- E. Joint Sealer Type BPM (Modified polyurethane, Multi-component): Pouring grade, self-leveling bitumen modified two component urethane sealant, conforming to ASTM C920, Type M, Grade P or NS, Class 25 and FS SS-S-00227E, Type 1, Class A, with a minimum movement capability of $+25/-25$ percent.
 - 1.
- F. Joint Sealer Type SC (Silicone, general construction): One-part medium modulus, natural cure, synthetic sealant, having a useful life expectancy of at least 20 years, conforming to ASTM C 920, Type S, NS, Class 50, use NT, G, A, M, O with a minimum movement capability of ± 50 percent.
 - 1.
- G. Joint Sealer Type SX (Silicone, Exterior construction): Medium modulus, neutral curing, low to no bleed silicone passing ASTM C1248, having a useful life expectancy of at least 20 years, conforming to ASTM C 920, Type S, Grade NS, Class 50, with a minimum movement capability of $+50$ percent and -50 percent.
 - 1.

2.3 ACCESSORIES

- A. Compressible joint bead back-up: Compressible closed cell polyethylene, extruded polyolefin or polyurethane foam rod complying with ASTM C 1330, Type C (losed cell material with a surface skin), 25 to 33 percent greater in diameter than width of joint. Shape and size of compressible back-up shall be as recommended by manufacturer for the specific condition used.
 - 1.
- B. Primers: Furnish and install joint primers of the types, and to the extent, recommended by the respective sealant manufacturers for the specific joint materials and joint function.
- C. Bond-breaker tape, and temporary masking tape: Of types as recommended by the manufacturer of the specific sealant and caulking material used at each application, and completely free from contaminants which would adversely affect the sealant and caulking materials.
 1. Liquid bond breaker and duct tape are not permitted.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. **Preinstallation Adhesion Testing: Install a sample for each test location indicated in the test plan.**
 - 1. **Test each sample as specified in PART 1 under QUALITY ASSURANCE article.**
 - 1. **Notify Architect of date and time that tests will be performed, at least seven days in advance.**
 - 2. **Record each test on Preinstallation Adhesion Test Log as indicated.**
 - 3. **If any sample fails, review products and installation procedures, consult manufacturer, or take other measures that are necessary to ensure adhesion; retest in a different location; if unable to obtain satisfactory adhesion, report to Engineer.**
 - 4. **After completion of tests, remove remaining sample material and prepare joints for new sealant installation. [ADD 3]**

3.2 PREPARATION

- A. General:
 - 1. Weather conditions must be dry and of the temperature, as recommended by sealant manufacturer, during application operations.
 - 2. Surface receiving work of this section must be absolutely dry and dust free. All joints receiving sealant/caulking materials and primers shall be subject to the approval of the sealant manufacturer for proper use of specified materials.
- B. Thoroughly clean all joints, removing all loose mortar, oil, grease, dust, frost, and other foreign materials that will prevent proper adhesion of primers and sealant materials.
 - 1. Clean ferrous metals of all rust and coatings by wire brush, grinding or sandblasting. Remove oil, grease and protective coatings with cleaners recommended by sealant manufacturer.
- C. Prime joint substrates, as recommended in writing by joint-sealant manufacturer, as based on preconstruction joint-sealant-substrate tests or as based upon prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

- D. Verify that joint backing and release tapes are compatible with sealant.
- E. Perform preparation in accordance with ASTM C 804 and C 790 for solvent and latex base solvents, respectively.

3.3 INSTALLATION

- A. General: Conform to SWRI requirements, and sealant manufacturer's written requirements for installation.
- B. Provide joint sealant installations complying with ASTM C1193. [ADD 3]**
- C. Install joint bead back-up in all joints in excess of 5/8-inch depth, and joints that have no back-up therein, placing the joint bead in the joint in a manner that will assure a constant depth 1/8 inch greater than the sealant and caulking material depth tolerances.
 - 1. Set beads into joints continuously, by slightly stretching during placement, to permit compression against sides of joint, without surface wrinkles or buckles.
 - 2. Do not stretch back-up material into joints.
- D. Install bond breaker in joints where shown in the Drawings and wherever recommended by the sealant manufacturer to prevent bond of the sealant to surfaces where such bond might impair the Work.
- E. Apply masking tape or other precautions to prevent migration or spillage of materials onto adjoining surfaces.
- F. Apply urethane sealants, silicone sealants, and latex caulking materials into joints in accordance with manufacturer's instructions, using mechanical or power caulking gun equipped with nozzle of appropriate size, with sufficient pressure to completely fill the joints.
 - 1. The depth of sealant and caulking materials shall be in accordance with manufacturer's recommendations for the specific joint function, but in no case exceed 1/2-inch in depth, nor less than 1/4-inch, regardless of the joint width.
 - 2. Maintain the outer edge of the sealant and caulking materials, where side faces of joints are in the same plane, back 1/8-inch from the faces.
 - 3. Apply sealant in continuous beads without open joints, voids or air pockets so as to provide a watertight and airtight seal for the entire joint length.
 - 4. After placement of the sealant and caulking materials, concave-tool the surfaces to uniform density, using a water-wet tool. Do not use detergents or soapy water for the tooling operations.
 - 5. Remove the temporary masking tape immediately after tooling, and before the sealant or caulking material has taken initial set.
- G. Apply pouring self-leveling urethane sealant (Sealant designation **HL**) into horizontal joints in accordance with manufacturer's instructions, to a level approximately 1/16 inch below adjacent surfaces.
 - 1. Apply sealant without open joints, voids or air pockets so as to provide a watertight and airtight seal for the entire joint length.

2. After placement of the sealant and caulking materials, concave-tool the surfaces to uniform density, using a water-wet tool. Do not use detergents or soapy water for the tooling operations.
3. Remove the temporary masking tape immediately after tooling, and before the sealant has taken initial set.

3.4 CLEANING

- A. Clean all surfaces of adjacent surfaces which have been marked or soiled by the work of this Section, removing all excess sealant and caulking materials with solvents which will not damage the surfaces in any way.

3.5 PROTECTION

- A. During the operation of sealant work, protect the work of other trades against undue soilage and damage by the exercise of reasonable care and precautions. Repair or replace any work so damaged and soiled.

3.6 SCHEDULE

- A. General: Seal joints indicated and all interior and exterior joints, seams, and intersections between dissimilar materials. B. Sealant Colors:

1. Colors for Sealant (typical): As selected by the Architect from manufacturer's standard colors.
2. Color for Sealant Types "AA" and "AP": White.
3. Color for Sealant Type "BL": Black.
4. In concealed installation, and in partially or fully exposed installation where so approved by the Architect, standard gray or black sealant may be used.

- C. Specialty Joint Conditions:

1. Sealant for setting exterior door thresholds Phase A (T Hanger Replacement): Type "BL".

- D. Exterior joints (Listed by primary building material abutting sealant joints):

1. Concrete:

<u>Joint Condition</u>	<u>Sealant Type</u>
a. Concrete to concrete, vertical control joints:	SX or SC
a. Concrete to all items which penetrate exterior concrete walls, including, but not necessarily limited to, door frames, louver frames, pipes, vents, and similar items:	SX or SC
b. Concrete to concrete control, expansion and isolation BPM joints in horizontal vehicular traffic surfaces:	

2. Exterior Metal:

<u>Joint Condition</u>	<u>Sealant Type</u>
a. Metal to metal:	SX

- E. Interior joints (Listed by primary building material abutting sealant joints):
 - 1. Interior Concrete:
 - a. Concrete to concrete horizontal vehicular traffic BPM surfaces:
 - 2. Interior metal:

<u>Joint Condition</u>	<u>Sealant Type</u>
a. Metal to metal :	SX
 - 3. Gypsum Board:

<u>Joint Condition</u>	<u>Sealant Type</u>
a. Gypsum board to metal or wood trim:	AP
b. Gypsum board to abutting surfaces at exposed tops partitions and walls:	AA and bottoms
c. Gypsum board to masonry:	SC
d. At gaps and spaces between gypsum board to and window frames, penetrating conduits and piping, building specialty items, ductwork, and similar items:	AP interior door
e. Gypsum board to plumbing fixtures:	SM

End of Section

SECTION 22 0529**HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Pipe hangers.
- B. Pipe supports, guides, shields, and saddles.
- C. Support and attachment components for equipment, piping, and other plumbing work.

1.02 REFERENCE STANDARDS

- A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2016a.
- C. ASTM A181/A181M - Standard Specification for Carbon Steel Forgings, for General - Purpose Piping; 2014.
- D. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.
- E. ASTM A47/A47M - Standard Specification for Ferritic Malleable Iron Castings; 1999, with Editorial Revision (2018).
- F. ASTM A283/A283M - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates; 2018.
- G. ASTM A395/A395M - Standard Specification for Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures; 1999 (Reapproved 2018).
- H. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2020.
- I. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2018a.
- J. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel; 2019.
- K. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.
- L. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials; 2016.
- M. FM (AG) - FM Approval Guide; current edition.
- N. MFMA-4 - Metal Framing Standards Publication; 2004.
- O. MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation; 2018.
- P. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- Q. UL (DIR) - Online Certifications Directory; Current Edition.
- R. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials; Current Edition, Including All Revisions.

1.03 SUBMITTALS

- A. Product Data: Provide manufacturer's standard catalog pages and data sheets for metal channel (strut) framing systems and post-installed concrete and masonry anchors.

1.04 QUALITY ASSURANCE

- A. Comply with applicable building code.

- B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.
- C. Installer Qualifications for Powder-Actuated Fasteners (when specified): Certified by fastener system manufacturer with current operator's license.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 PIPE HANGERS

- A. Band Hangers, Adjustable:
 - 1. MSS SP-58 type 7 or 9, zinc-plated ASTM A1011/A1011M steel or ASTM A653/A653M carbon steel.
- B. J-Hangers, Adjustable:
 - 1. MSS SP-58 type 5, zinc-plated ASTM A1011/A1011M steel or ASTM A653/A653M carbon steel.
 - 2. Felt-Lined: Provide for uninsulated pipe to reduce noise and prevent static issues.
- C. Swivel Ring Hangers, Adjustable:
 - 1. MSS SP-58 type 10, epoxy-painted, zinc-colored.
 - 2. Material: ASTM A395/A395M ductile iron, ASTM A36/A36M carbon steel, ASTM A47/A47M malleable iron, ASTM A181/A181M forged steel, or ASTM A283/A283M steel.
 - 3. FM (AG) and UL (DIR) listed for specific pipe size runs and loads.
 - 4. Felt-Lined: Provide for uninsulated pipe to reduce noise and prevent static issues.
- D. Clevis Hangers, Adjustable:
 - 1. Copper Tube: MSS SP-58 type 1, epoxy-plated copper.

2.02 PIPE SUPPORTS, GUIDES, SHIELDS, AND SADDLES

- A. Dielectric Barriers: Provide between metallic supports and metallic piping and associated items of dissimilar type; acceptable dielectric barriers include rubber or plastic sheets or coatings attached securely to pipe or item.
- B. Stanchions:
 - 1. Material: Malleable iron, ASTM A47/A47M; or carbon steel, ASTM A36/A36M.
 - 2. Provide coated or plated saddles to isolate steel hangers from dissimilar metal tube or pipe.
 - 3. For pipe runs, use stanchions of same type and material where vertical adjustment is required for stationary pipe.
- C. U-Bolts:
 - 1. MSS SP-58 type 24, carbon steel u-bolt for pipe support or anchoring.
- D. Pipe Shields for Insulated Piping:
 - 1. MSS SP-58 type 40, ASTM A1011/A1011M steel or ASTM A653/A653M carbon steel.
 - 2. General Construction and Requirements:
 - a. Surface Burning Characteristics: Comply with ASTM E84 or UL 723.
 - b. Shields Material: UV-resistant polypropylene with glass fill.
 - c. Maximum Insulated Pipe Outer Diameter: 12-5/8 inch (321 mm).
 - d. Service Temperature: Minus 40 to 178 degrees F (Minus 40 to 81 degrees C).
 - e. Pipe shields to be provided at hanger, support, and guide locations on pipe requiring insulation or additional support.
- E. Pipe Supports:
 - 1. Material: ASTM A395/A395M ductile iron, ASTM A36/A36M carbon steel, ASTM A47/A47M malleable iron, ASTM A181/A181M forged steel, or ASTM A283/A283M steel.
 - 2. Liquid Temperatures Up to 122 degrees F (50 degrees C):
 - a. Overhead Support: MSS SP-58 types 1, 3 through 12 clamps.
 - b. Support From Below: MSS SP-58 types 35 through 38.

- F. Pipe Supports, Thermal Insulated:
1. General Requirements:
 - a. Insulated pipe supports to be provided at hanger, support, and guide locations on pipe requiring insulation or additional support.
 - b. Surface Burning Characteristics: Flame spread index/smoke developed index of 5/30, maximum, when tested in accordance with ASTM E84 or UL 723.
 - c. Provide pipe supports for 1/2 to 30 inch (15 to 750 mm, DN) iron pipes.
 - d. Insulation inserts to consist of rigid phenolic foam insulation surrounded by 360 degree, PVC jacketing.
 2. PVC Jacket:
 - a. Pipe insulation protection shields to be provided with ball bearing hinge and locking seam.
 - b. Moisture Vapor Transmission: 0.0071 perm inch (0.0092 ng/Pa s m), when tested in accordance with ASTM E96/E96M.
 - c. Minimum Thickness: 60 mil, 0.06 inch (1.524 mm).
- G. Copper Pipe Supports:
1. General Requirements
 - a. Source Limitations: Furnish supports, associated fittings, accessories, and hardware produced by single manufacturer.

2.03 SUPPORT AND ATTACHMENT COMPONENTS

- A. General Requirements:
1. Provide all required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for the complete installation of plumbing work.
 2. Provide products listed, classified, and labeled as suitable for the purpose intended, where applicable.
 3. Where support and attachment component types and sizes are not indicated, select in accordance with manufacturer's application criteria as required for the load to be supported. Include consideration for vibration, equipment operation, and shock loads where applicable.
 4. Do not use wire, chain, perforated pipe strap, or wood for permanent supports unless specifically indicated or permitted.
 5. Steel Components: Use corrosion resistant materials suitable for the environment where installed.
 - a. Indoor Dry Locations: Use zinc-plated steel or approved equivalent unless otherwise indicated.
 - b. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
 - c. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A123/A123M or ASTM A153/A153M.
- B. Metal Channel (Strut) Framing Systems:
1. Provide factory-fabricated continuous-slot metal channel (strut) and associated fittings, accessories, and hardware required for field-assembly of supports.
 2. Comply with MFMA-4.
 3. Channel Material:
 - a. Indoor Dry Locations: Use painted steel, zinc-plated steel, or galvanized steel.
 4. Minimum Channel Thickness: Steel sheet, 12 gage, 0.1046 inch (2.66 mm).
 5. Minimum Channel Dimensions: 1-5/8 inch (41 mm) width by 13/16 inch (21 mm) height.
- C. Hanger Rods: Threaded zinc-plated steel unless otherwise indicated.
1. Minimum Size, Unless Otherwise Indicated or Required:
 - a. Piping up to 1 inch (27 mm) nominal: 1/4 inch (6 mm) diameter.
 - b. Piping larger than 1 inch (27 mm) nominal: 3/8 inch (10 mm) diameter.
- D. Pipe Supports:
1. Liquid Temperatures Up To 122 degrees F (50 degrees C):
 - a. Overhead Support: MSS SP-58 Types 1, 3 through 12.

- b. Support From Below: MSS SP-58 Types 35 through 38.
- E. Pipe Stanchions: For pipe runs, use stanchions of same type and material where vertical adjustment is required for stationary pipe.
 - 1. Material: Malleable iron, ASTM A47/A47M; or carbon steel, ASTM A36/A36M.
 - 2. Provide coated or plated saddles to isolate steel hangers from dissimilar metal tube or pipe.
- F. Beam Clamps: MSS SP-58 Types 19 through 23, 25 or 27 through 30 based on required load.
 - 1. Material: ASTM A36/A36M carbon steel or ASTM A181/A181M forged steel.
 - 2. Provide clamps with hardened steel cup-point set screws and lock-nuts for anchoring in place.
- G. Riser Clamps:
 - 1. Provide copper plated clamps for copper tubing support.
 - 2. For insulated pipe runs, provide two bolt-type clamps designed for installation under insulation.
- H. Pipe Hangers: For a given pipe run, use hangers of the same type and material.
 - 1. Material: Malleable iron, ASTM A47/A47M; or carbon steel, ASTM A36/A36M.
 - 2. Provide coated or plated hangers to isolate steel hangers from dissimilar metal tube or pipe.
- I. Dielectric Barriers: Provide between metallic supports and metallic piping and associated items of dissimilar type; acceptable dielectric barriers include rubber or plastic sheets or coatings attached securely to pipe or item.
- J. Pipe Shields for Insulated Piping:
 - 1. General Construction and Requirements:
 - a. Surface Burning Characteristics: Comply with 1 or 1.
 - b. Shields Material: UV-resistant polypropylene with glass fill.
 - c. Maximum Insulated Pipe Outer Diameter: 12-5/8 inch (321 mm).
 - d. Minimum Service Temperature: Minus 40 degrees F (Minus 40 degrees C).
 - e. Maximum Service Temperature: 178 degrees F (81 degrees C).
 - f. Pipe shields to be provided at hanger, support, and guide locations on pipe requiring insulation or additional support.
- K. Anchors and Fasteners:
 - 1. Unless otherwise indicated and where not otherwise restricted, use the anchor and fastener types indicated for the specified applications.
 - 2. Concrete: Use preset concrete inserts, expansion anchors, or screw anchors.
 - 3. Solid or Grout-Filled Masonry: Use expansion anchors or screw anchors.
 - 4. Hollow Masonry: Use toggle bolts.
 - 5. Hollow Stud Walls: Use toggle bolts.
 - 6. Steel: Use beam clamps, machine bolts, or welded threaded studs.
 - 7. Sheet Metal: Use sheet metal screws.
 - 8. Preset Concrete Inserts: Continuous metal channel (strut) and spot inserts specifically designed to be cast in concrete ceilings, walls, and floors.
 - a. Comply with MFMA-4.
 - b. Channel Material: Use galvanized steel.
- L. Pipe Installation Accessories:
 - 1. Copper Pipe Supports:
 - 2. Overhead Pipe Supports:
 - a. General Requirements
 - 1) Source Limitations: Furnish supports, associated fittings, accessories, and hardware produced by a single manufacturer.
 - 3. Plenum Pipe Supports:
 - a. General Requirements:

- 1) Source Limitations: Furnish supports, associated fittings, accessories, and hardware produced by a single manufacturer.
4. Inserts and Clamps:
 - a. General Requirements:
 - 1) Source Limitations: Furnish supports, associated fittings, accessories, and hardware produced by a single manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that mounting surfaces are ready to receive support and attachment components.
- C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Provide independent support from building structure. Do not provide support from piping, ductwork, conduit, or other systems.
- C. Unless specifically indicated or approved by Architect, do not provide support from suspended ceiling support system or ceiling grid.
- D. Unless specifically indicated or approved by Architect, do not provide support from roof deck.
- E. Do not penetrate or otherwise notch or cut structural members without approval of Structural Engineer.
- F. Provide thermal insulated pipe supports complete with hangers and accessories. Install thermal insulated pipe supports during the installation of the piping system.
- G. Equipment Support and Attachment:
 1. Use metal fabricated supports or supports assembled from metal channel (strut) to support equipment as required.
 2. Use metal channel (strut) secured to studs to support equipment surface-mounted on hollow stud walls when wall strength is not sufficient to resist pull-out.
 3. Use metal channel (strut) to support surface-mounted equipment in wet or damp locations to provide space between equipment and mounting surface.
 4. Securely fasten floor-mounted equipment. Do not install equipment such that it relies on its own weight for support.
- H. Preset Concrete Inserts: Use manufacturer-provided closure strips to inhibit concrete seepage during concrete pour.
- I. Secure fasteners according to manufacturer's recommended torque settings.
- J. Remove temporary supports.

3.03 FIELD QUALITY CONTROL

- A. Inspect support and attachment components for damage and defects.
- B. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.
- C. Correct deficiencies and replace damaged or defective support and attachment components.

END OF SECTION

DRAWINGS

SCHEDULE A - SITE PLAN WITHOUT RESTROOM, WATER, AND SEWER

Bid Item	Description Of Item	Unit	Quantity
B-001-5.1	T-HANGAR BUILDING - ARCHITECTURAL	LS	1
B-001-5.1	T-HANGAR BUILDING - FOUNDATION AND SLAB	LS	1
B-001-5.1	T-HANGAR BUILDING - ELECTRICAL	LS	1
B-001-5.1	T-HANGAR BUILDING - GENERAL BID	LS	1
M-150-1	FIELD SURVEY AND STAKEOUT	LS	1
M-200-1	MAINTENANCE AND PROTECTION OF TRAFFIC	LS	1
M-300-1	GRASSED SOIL FILTER SYSTEM	SF	1,600
C-100	CONTRACTORS QUALITY CONTROL PROGRAM	LS	1
C-102-5.1a	INSTALLATION AND REMOVAL OF PIPE INLET PROTECTION	EA	1
C-102-5.1b	INSTALLATION AND REMOVAL OF EROSION CONTROL BARRIER	LF	2,560
C-102-5.1c	INSTALLATION AND REMOVAL OF CHECK DAM	EA	6
C-102-5.1d	INSTALLATION OF EROSION CONTROL MATTING	SY	3,400
C-102-5.1e	INSTALLATION AND REMOVAL OF INLET PROTECTION	EA	7
C-102-5.1f	INSTALLATION OF STONE SLOPE WITH GEOTEXTILE	CY	110
C-105	MOBILIZATION (10% MAX)	LS	1
P-101-5.1	PAVEMENT REMOVAL	SY	800
P-101-5.6	COLD MILLING (0-4")	SY	225
P-151-4.1	CLEARING AND GRUBBING	AC	0.10
P-151-4.2	REMOVE UTILITY POLES	EA	5
P-152-4.1	UNCLASSIFIED EXCAVATION	CY	5,100
P-152-4.2	EMBANKMENT IN PLACE	CY	4,000
P-154-5.1	SUBBASE COURSE	CY	4,270
P-209-5.1	CRUSHED AGGREGATE BASE COURSE - 6" DEPTH	CY	1,120
P-403-8.1	ASPHALT MIXTURE SURFACE COURSE	TON	1,300
P-603-5.1	EMULSIFIED ASPHALT TACK COAT	GAL	50
P-605-5.1	JOINT SEALING FILLER	LF	490
P-620-5.1	MARKINGS	SF	810
P-620-5.2	REFLECTIVE MEDIA	LB	50
F-162-5.1	REMOVE CHAINLINK FENCE	LF	770
F-162-5.2	CHAIN LINK FENCE	LF	910
T-901-5.1	SEEDING	KSR	150
T-905-5.1	TOPSOIL (OBTAINED ON SITE OR REMOVED FROM STOCKPILE)	CY	1,000
T-908-5.1	MULCHING	SY	16,700
D-701-5.1a	6 INCH CPE PIPE	LF	35
D-701-5.1b	12 INCH REINFORCED CONCRETE PIPE	LF	90
D-705-5.2	CUT AND CAP UNDERDRAIN CLEANOUT	EA	2
D-752-5.1	HEADWALL	EA	1
D-752-5.2	FLARED END SECTION	EA	1
L-108-5.1	NO. 8 AWG 5kV L-824 TYPE C CABLE INSTALLED IN TRENCH OR DUCT BANK	LF	1,400
L-108-5.2	NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE, INSTALLED IN TRENCH INCLUDING CONNECTIONS/TERMINATIONS	LF	2,800
L-108-5.3	NO. 1/0 AWG 600V THWN-2 TYPE C CABLE, INSTALLED IN DUCT BANK OR CONDUIT	LF	4,100
L-108-5.4	NO. 1/0 AWG, STRANDED, EQUIPMENT GROUND, INSTALLED IN DUCT BANK OR CONDUIT	LF	1,400
L-108-5.5	ADDITIONAL GROUND RODS	EA	9
L-110-5.1	NON-ENCASED ELECTRICAL DUCT BANK, 1-WAY 2-INCH	LF	1,300
L-110-5.2	CONCRETE ENCASED ELECTRICAL DUCT BANK, 4-WAY 4-INCH	LF	100
L-110-5.3a	REMOVAL AND DISPOSAL OF DIRECT BURIED CABLE	LF	1,500
L-110-5.3b	REMOVAL AND DISPOSAL OF CONDUIT	LF	600
L-110-5.4	NON-ENCASED ELECTRICAL DUCT BANK, 2-WAY 4-INCH	LF	540
L-115-5.1	REMOVE EXISTING ELECTRIC HANDHOLE	EA	2
L-115-5.2	REMOVE AND DISPOSE OF DUCT MARKER	EA	1
L-115-5.3	INSTALL L-867E ELECTRIC HANDHOLE IN TURF	EA	4
L-115-5.4	INSTALL 4'x4' CONCRETE JUNCTION STRUCTURE IN TURF	EA	2
L-115-5.5	INSTALL 4'x4' LOAD RATED CONCRETE JUNCTION STRUCTURE IN PROPOSED PAVEMENT	EA	1
L-125-5.1	AIRFIELD SIGNAGE (L-858 LED, SIZE 2) WITH FOUNDATION WITH L-830 TRANSFORMER	EA	2
L-125-5.2	BASE MOUNTED TAXIWAY EDGE LIGHTS (L-861T LED) WITH L-830 TRANSFORMER	EA	9
L-125-5.3	REMOVE AND RELOCATE EXISTING BASE-MOUNTED TAXIWAY EDGE LIGHT AND BASE	EA	4
L-125-5.4	RETROREFLECTIVE TAXIWAY EDGE MARKER (L-853)	EA	28
33-4100-1	UNDERDRAIN PIPE AND FITTINGS	LF	750
X-600-1	REPLACE UNKNOWN COMMUNICATION AND ELECTRIC CABLES	ALL	1
X-600-2	INVESTIGATE DEPTH OF GAS LINE	ALL	1
X-600-3	SERVICE CONNECTION COORDINATION WITH CMP (TAXILANE & SERVICE ROAD)	ALL	1
X-600-4	SERVICE CONNECTION COORDINATION WITH CMP (T-HANGAR)	ALL	1
X-600-5	SERVICE CONNECTION COORDINATION WITH COMMUNICATION PROVIDER (TAXILANE & SERVICE ROAD)	ALL	1
X-800-1	PERMANENT VEHICLE TRAFFIC SIGN	EA	1

SCHEDULE A - ADDITIVE ALTERNATE NO. 1 - MOTORIZED VEHICLE GATE

Bid Item	Description Of Item	Unit	Quantity
C-105	MOBILIZATION (10% MAX)	LS	1
P-101-5.1	PAVEMENT REMOVAL	SY	100
P-101-5.6	COLD MILLING (0-4")	SY	110
P-152-4.1	UNCLASSIFIED EXCAVATION	CY	20
P-209-5.1	CRUSHED AGGREGATE BASE COURSE - 6" DEPTH	CY	20
P-403-8.1	ASPHALT MIXTURE SURFACE COURSE	TON	20
P-603-5.1	EMULSIFIED ASPHALT TACK COAT	GAL	10
P-605-5.1	JOINT SEALING FILLER	LF	40
F-162-5.3	VEHICLE GATE	EA	1

SCHEDULE B - RESTROOM, WATER, AND SEWER

Bid Item	Description Of Item	Unit	Quantity
C-105	MOBILIZATION (10% MAX)	LS	1
B-001-5.5	RESTROOM ARCHITECTURAL	LS	1
B-001-5.6	RESTROOM PLUMBING	LS	1
B-001-5.7	RESTROOM ELECTRICAL	LS	1
B-001-5.8	RESTROOM GENERAL BID	LS	1
31 2316.26	TRENCH ROCK REMOVAL	CY	3
33 3113-1	SEWER PIPE AND FITTINGS (4" PVC)	LF	280
33 3113-2	SEWER CLEANOUTS	EA	2
33 3113-3	SEWER MANHOLE CONNECTION	EA	1
33 3113-4	SEWER CONNECTION FEE	AL	1
33 0561-1	CONCRETE MANHOLES (SEWER)	EA	1
33 1416-1	WATER PIPE AND FITTINGS (1")	LF	180
33 1416-2	WATER VALVES (WATER CURB STOP WITH BOX)	EA	1
33 1416-3	MUNICIPAL WATER CONNECTION FEE	AL	1
P-403-8.1	ASPHALT MIXTURE SURFACE COURSE (3" DEPTH) (FLIGHT LINE DRIVE UTILITIES)	TON	4
P-209-5.1	CRUSHED AGGREGATE BASE COURSE - 6" DEPTH - (FLIGHT LINE DRIVE UTILITIES)	CY	5
P-154-5.1	SUBBASE COURSE - 12" DEPTH - (FLIGHT LINE DRIVE UTILITIES)	CY	8

Project:

**CONSTRUCT
NEW T-HANGAR
AND TAXILANE**

45 FLIGHT LINE DRIVE,
AUBURN, ME 04210

Client:



**Auburn-Lewiston
Municipal Airport**
80 Airport Drive
Auburn, ME
t. 207.786.0631



53 Regional Drive
Concord, NH 03301



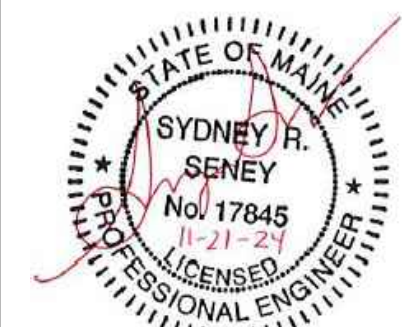
Team:

Architect:
Fennick McCredie Architecture
70 Franklin Street
Boston, Ma 02110
t. 617.350.7900

Structural/MEP Engineer:
McFarland Johnson
49 Court St, Suite 240
Binghamton, NY 13901
t. 607.723.9421

Civil Engineer:
McFarland Johnson
49 Court St, Suite 240
Binghamton, NY 13901
t. 607.723.9421

Stamp:



ISSUED FOR BID

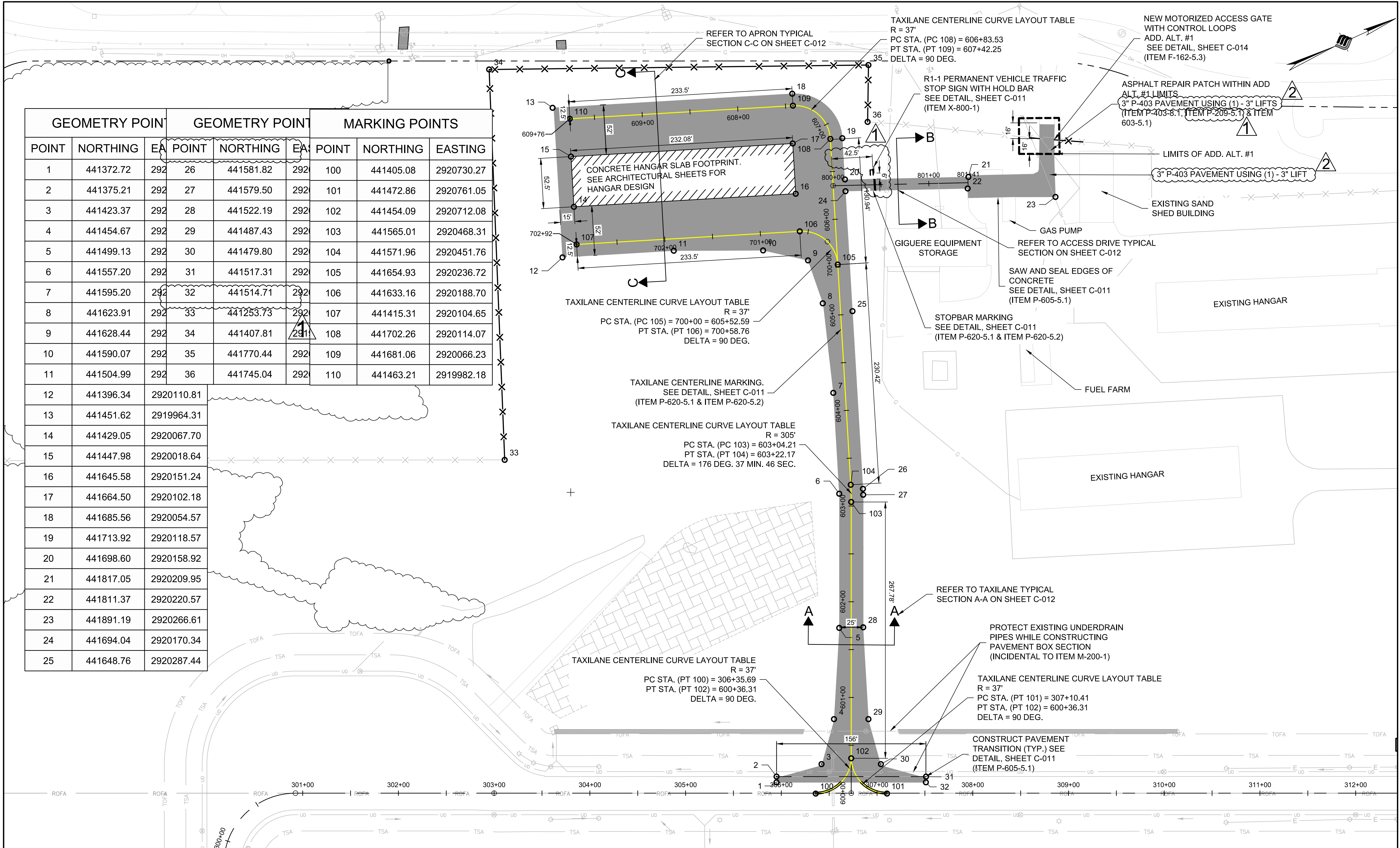
No.	Date	Revision
1	12.11.24	ADDENDUM NO.2
2	12.24.24	ADDENDUM NO.3

Job No.: 19186.01
Drawn By: MRB
Checked By: JTG
Issue: ISSUED FOR BID
Date: 11/21/2024
Scale: NTS

Drawing Title:
QUANTITIES

Drawing No.:
C-002

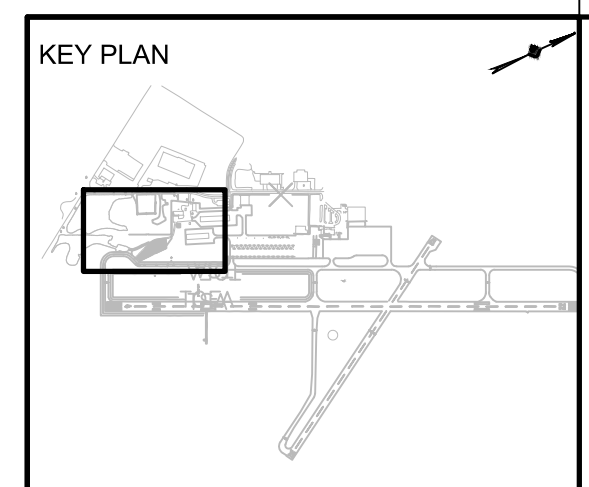
GEOMETRY POINT		GEOMETRY POINT		MARKING POINTS				
POINT	NORTHING	EA	POINT	NORTHING	EA	POINT	NORTHING	EASTING
1	441372.72	292	26	441581.82	292	100	441405.08	2920730.27
2	441375.21	292	27	441579.50	292	101	441472.86	2920761.05
3	441423.37	292	28	441522.19	292	102	441454.09	2920712.08
4	441454.67	292	29	441487.43	292	103	441565.01	2920468.31
5	441499.13	292	30	441479.80	292	104	441571.96	2920451.76
6	441557.20	292	31	441517.31	292	105	441654.93	2920236.72
7	441595.20	292	32	441514.71	292	106	441633.16	2920188.70
8	441623.91	292	33	441253.73	292	107	441415.31	2920104.65
9	441628.44	292	34	441407.81	292	108	441702.26	2920114.07
10	441590.07	292	35	441770.44	292	109	441681.06	2920066.23
11	441504.99	292	36	441745.04	292	110	441463.21	2919982.18
12	441396.34	2920110.81						
13	441451.62	2919964.31						
14	441429.05	2920067.70						
15	441447.98	2920018.64						
16	441645.58	2920151.24						
17	441664.50	2920102.18						
18	441685.56	2920054.57						
19	441713.92	2920118.57						
20	441698.60	2920158.92						
21	441817.05	2920209.95						
22	441811.37	2920220.57						
23	441891.19	2920266.61						
24	441694.04	2920170.34						
25	441648.76	2920287.44						



LEGEND

	PROPOSED PAVEMENT
	ARCHAEOLOGICALLY SENSITIVE AREA
	PROPOSED HANGAR

- NOTES:**
- HORIZONTAL DATUM: MAINE STATE PLANES, WEST ZONE, US FOOT.
 - VERTICAL DATUM: NAV88
 - SEE TYPICAL SECTION ON SHEET C-012.
 - DESIGN CODES:
 - RUNWAY: ADG A/B-I SMALL AIRCRAFT
 - TAXIWAY: TDG -1B



Project:
CONSTRUCT NEW T-HANGAR AND TAXILANE
45 FLIGHT LINE DRIVE, AUBURN, ME 04210

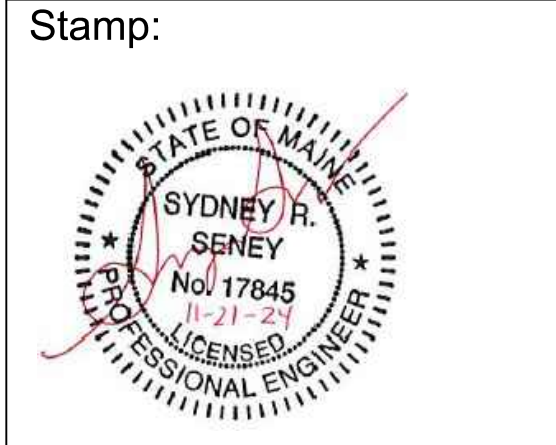
Client:

Auburn-Lewiston Municipal Airport
80 Airport Drive
Auburn, ME
t. 207 786 0631

McFarland Johnson
53 Regional Drive
Concord, NH 03301

Fennick McCredie Architecture

Team:
Architect:
Fennick McCredie Architecture
70 Franklin Street
Boston, Ma 02110
t. 617.350.7900
Structural/MEP Engineer:
McFarland Johnson
49 Court St, Suite 240
Binghamton, NY 13901
t. 607.723.9421
Civil Engineer:
McFarland Johnson
49 Court St, Suite 240
Binghamton, NY 13901
t. 607.723.9421



ISSUED FOR BID

No.	Date	Revision
A	12.11.24	ADDENDUM NO.2
B	12.24.24	ADDENDUM NO.3

Job No.: 19186.01
Drawn By: MRB
Checked By: JTG
Issue: ISSUED FOR BID
Date: 11/21/2024
Scale: 1" = 50'

Drawing Title:
LAYOUT PLAN

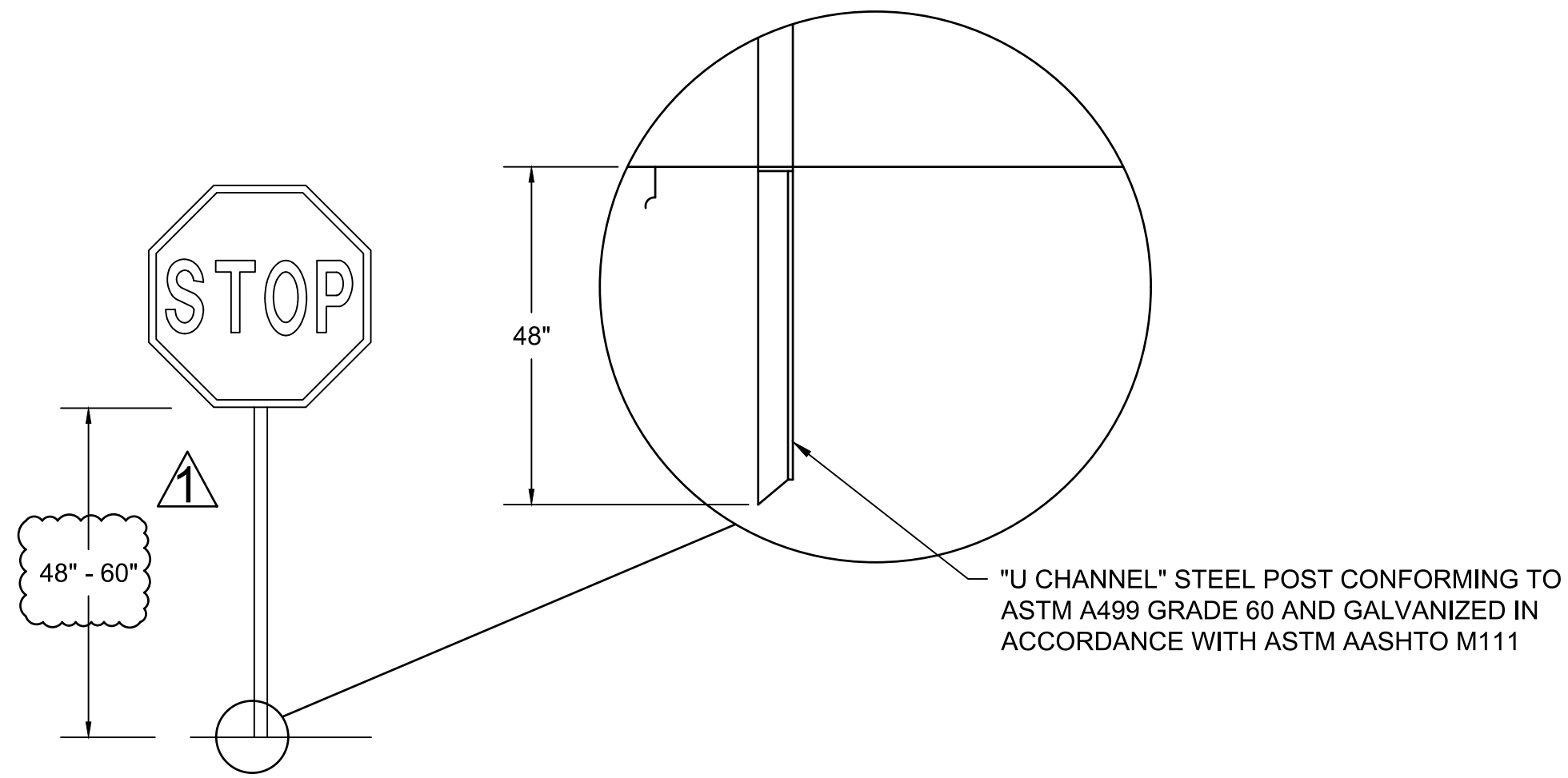
Drawing No.:
C-010

No.	Date	Revision
12.11.24		ADDENDUM NO.2
12.24.24		ADDENDUM NO.3

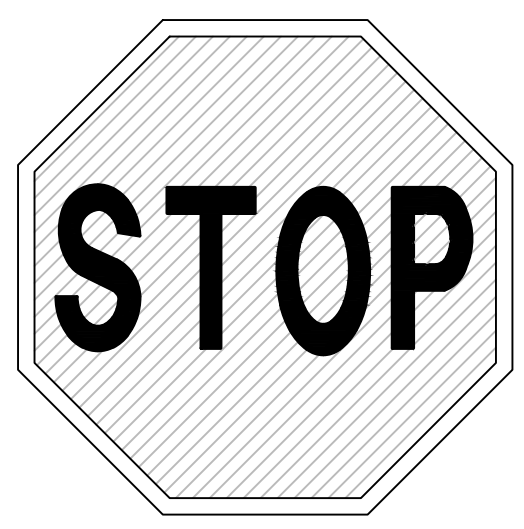
Job No.:	19186.01
Drawn By:	MRB
Checked By:	JTG
Issue:	ISSUED FOR BID
Date:	11/21/2024
Scale:	NTS

Drawing Title:
**LAYOUT
 DETAILS**

Drawing No.:
C-011

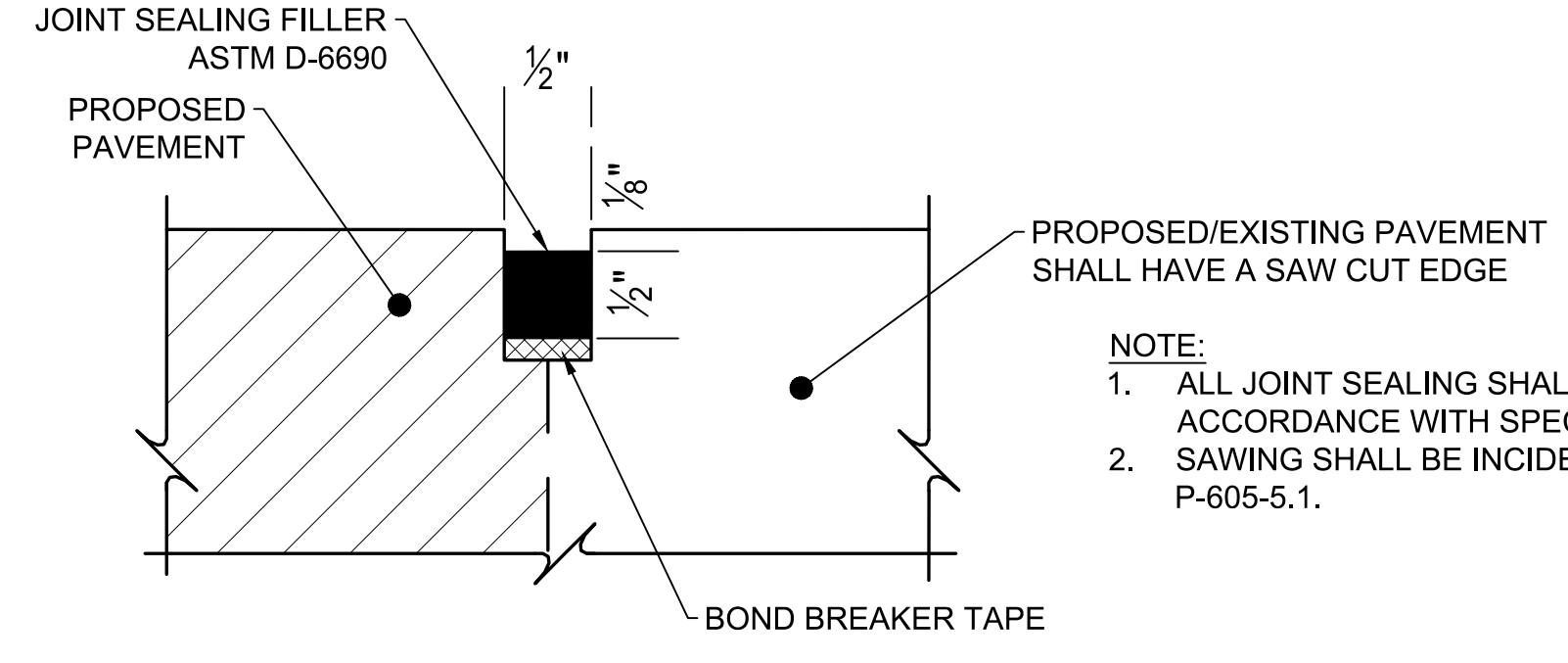


NOTES
 1. SIGNS INCLUDE SINGLE POST.



- SIGNS TO CONFORM TO LATEST VERSION OF MUTCD STANDARDS FOR R1-1 STOP SIGN
- 30" ACROSS FLATS
 COLOR LEGEND:
 BACKGROUND - RED (REFLECTIVE)
 LETTERS WHITE - (REFLECTIVE)

PERMANENT VEHICLE TRAFFIC STOP SIGN
 N.T.S.
 (ITEM X-800-1)



NOTE:
 1. ALL JOINT SEALING SHALL BE DONE IN ACCORDANCE WITH SPECIFICATION P-605.
 2. SAWING SHALL BE INCIDENTAL TO ITEM P-605-5.1.

JOINT SEALING DETAIL
 N.T.S.
 (ITEM P-605-5.1)

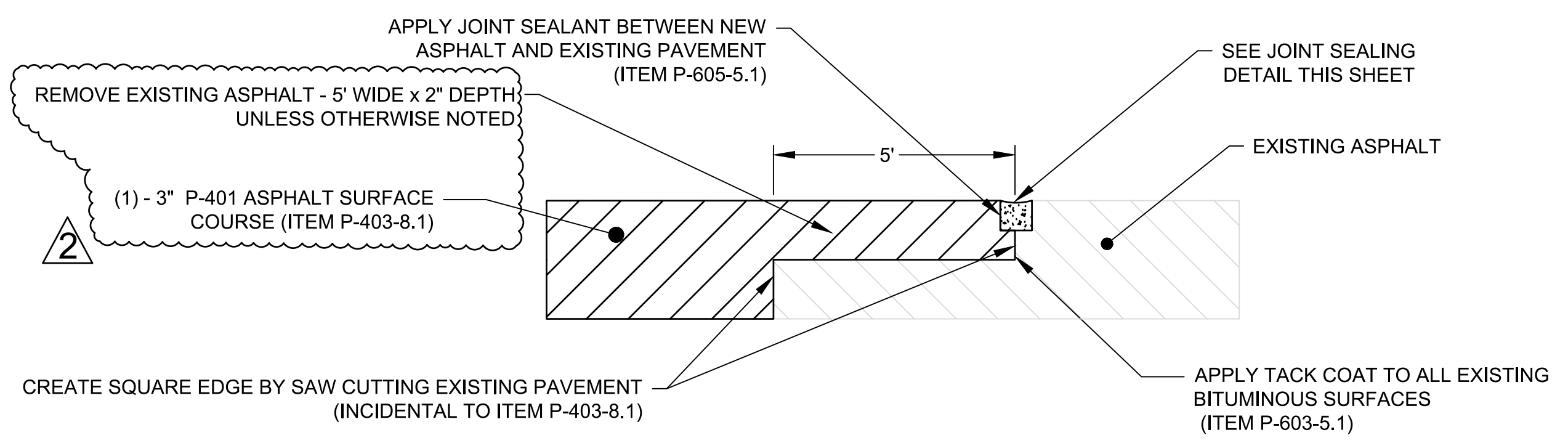


STOP BAR MARKING DETAIL
 N.T.S.
 (ITEM P-620-5.1)



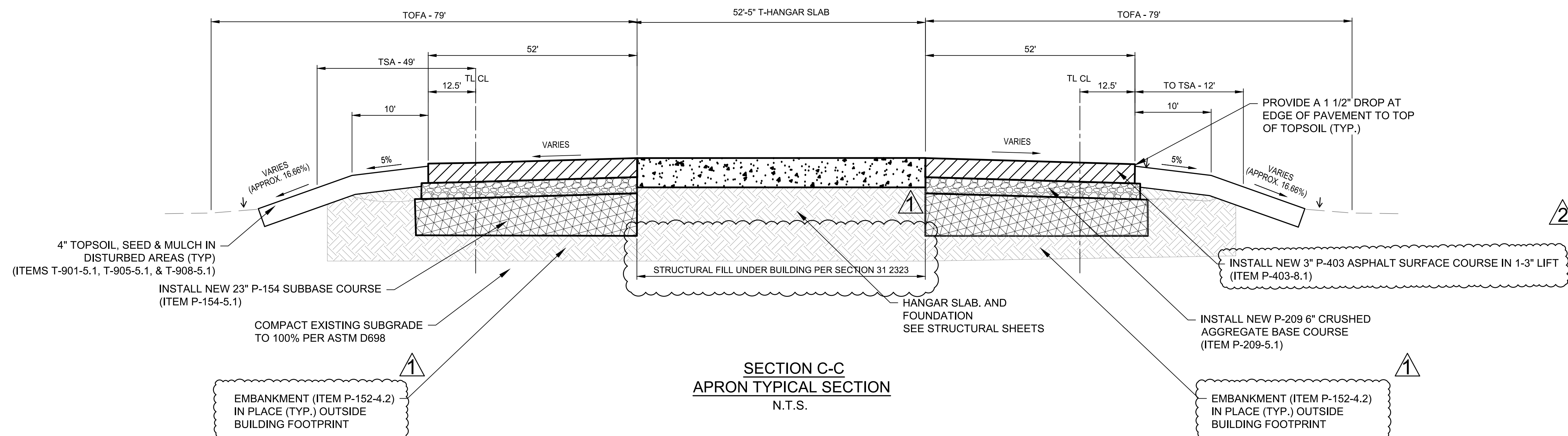
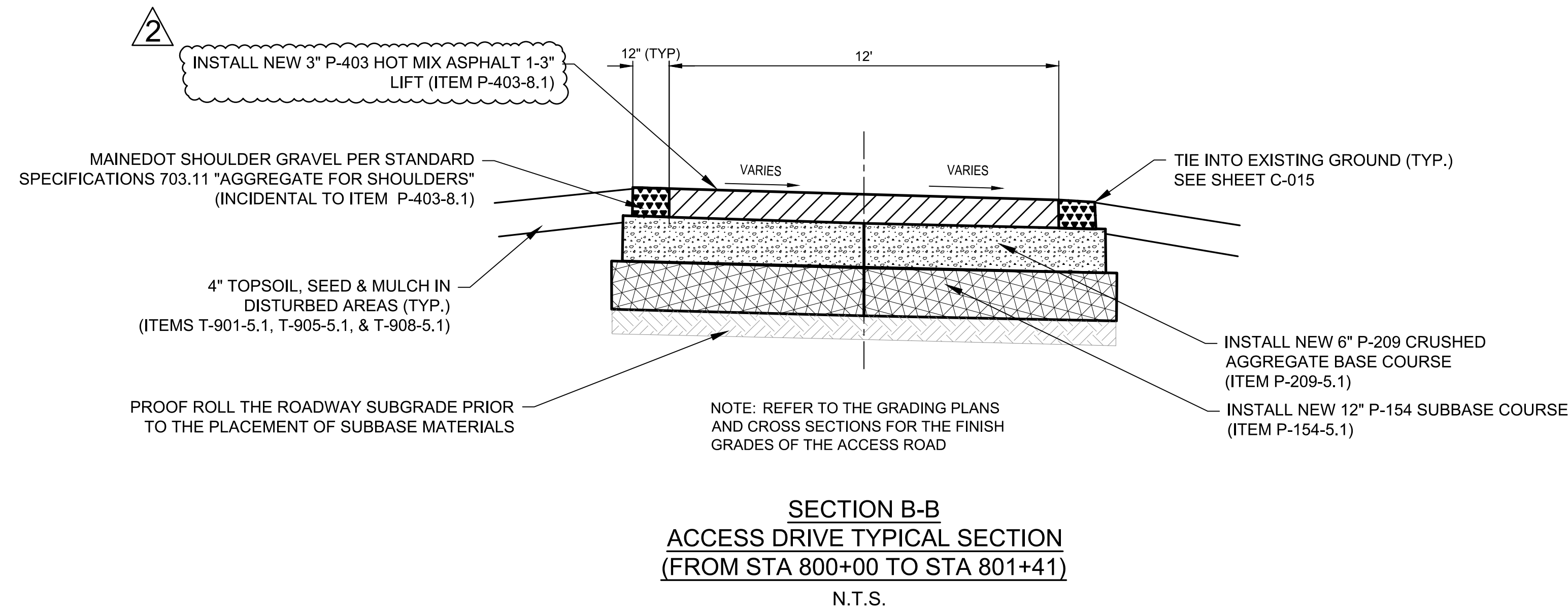
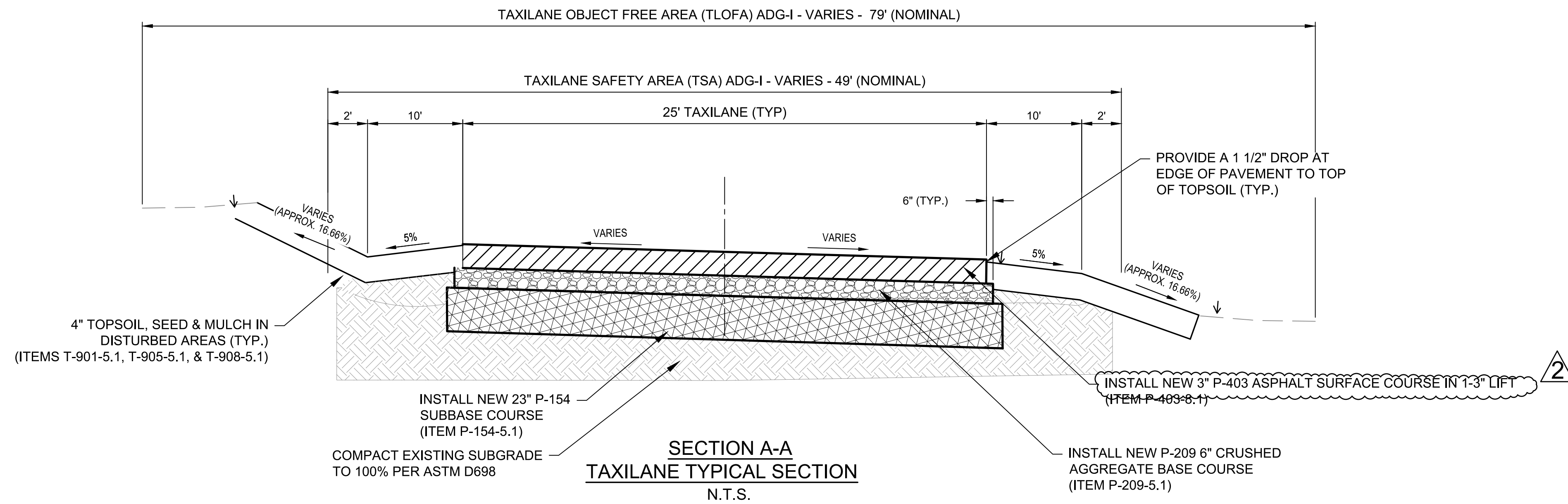
TAXIWAY/TAXILANE CENTERLINE MARKING DETAIL
 N.T.S.
 (ITEM P-620-5.1 & P-620-5.2)

- GENERAL MARKING NOTES:
- ALL BLACK MARKINGS SHALL RECEIVE NO BEADS.
 - ALL YELLOW MARKINGS SHALL HAVE TYPE III BEADS.
 - PAINT SHALL BE PAID FOR UNDER ITEM P-620-5.1.
 - BEADS SHALL BE PAID UNDER ITEM P-620-5.2.



PAVEMENT TRANSITION JOINT DETAIL
 NTS

NOTE:
 1. FACE OF EXISTING PAVEMENT SHALL BE FREE OF DIRT AND DEBRIS PRIOR OF APPLICATION OF TACK COAT OR SEALANT AND MAY REQUIRE WASHING OR USE OF WIRE BRUSH.



Project:
**CONSTRUCT
 NEW T-HANGAR
 AND TAXILANE**
 45 FLIGHT LINE DRIVE,
 AUBURN, ME 04210

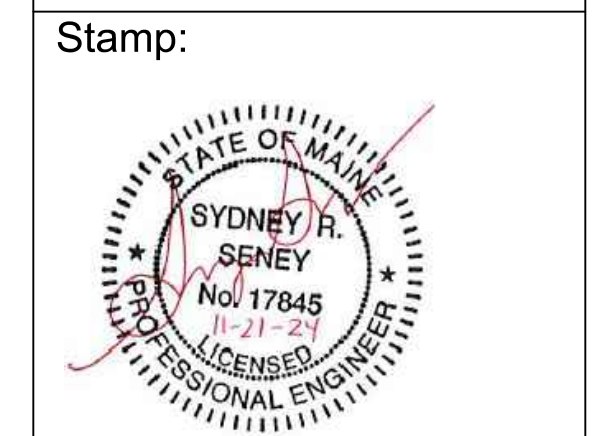
Client:

 Auburn-Lewiston
 Municipal Airport
 80 Airport Drive
 Auburn, ME
 t. 207.786.0631


 53 Regional Drive
 Concord, NH 03301


**Fennick
 McCredie
 Architecture**

Team:
 Architect:
 Fennick McCredie Architecture
 70 Franklin Street
 Boston, Ma 02110
 t. 617.350.7900
 Structural/MEP Engineer:
 McFarland Johnson
 49 Court St, Suite 240
 Binghamton, NY 13901
 t. 607.723.9421
 Civil Engineer:
 McFarland Johnson
 49 Court St, Suite 240
 Binghamton, NY 13901
 t. 607.723.9421



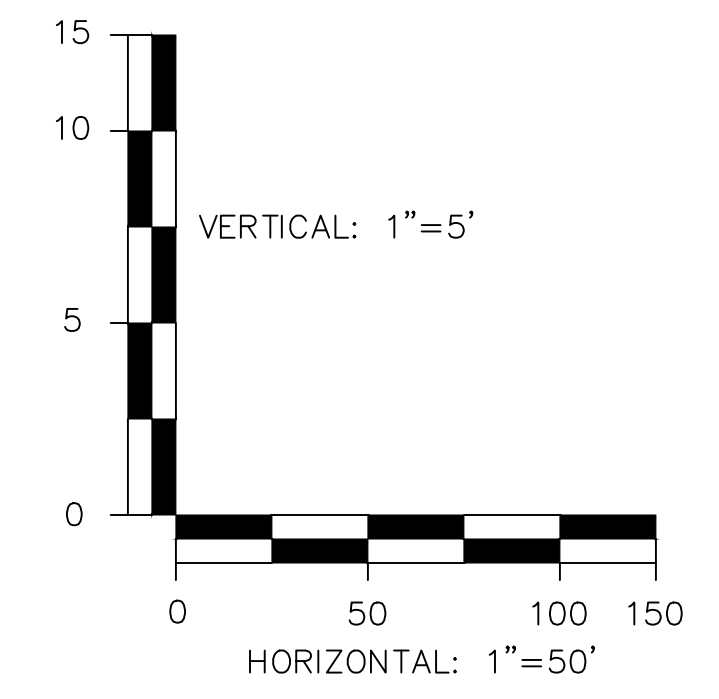
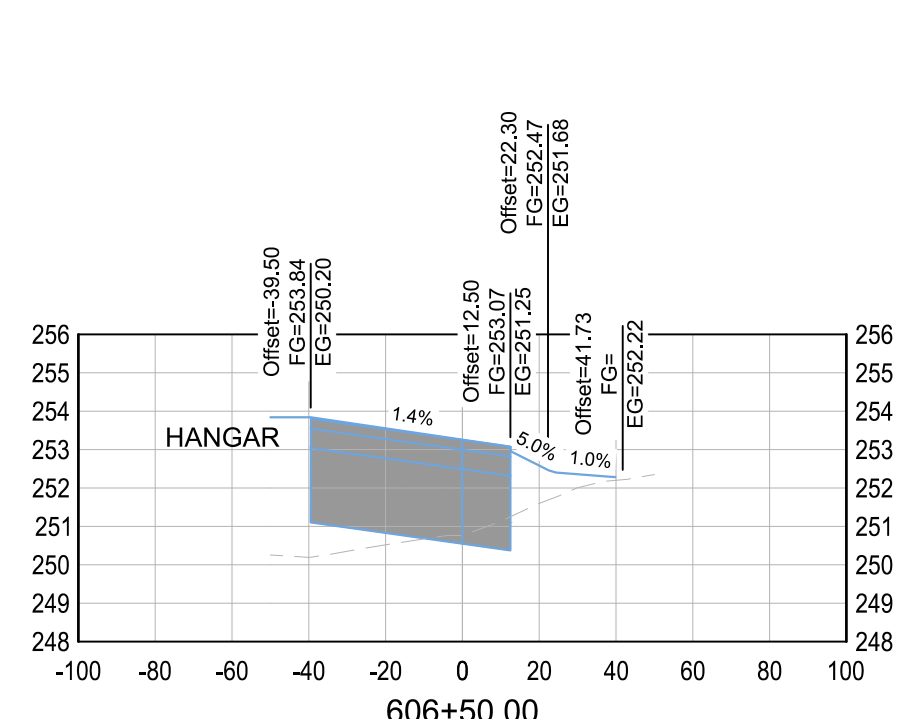
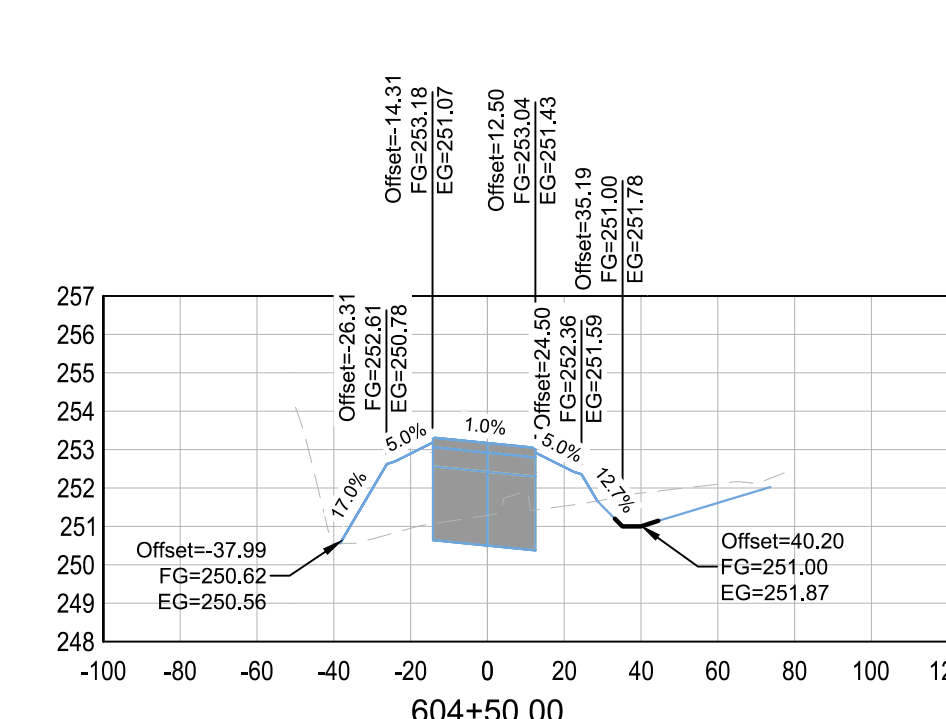
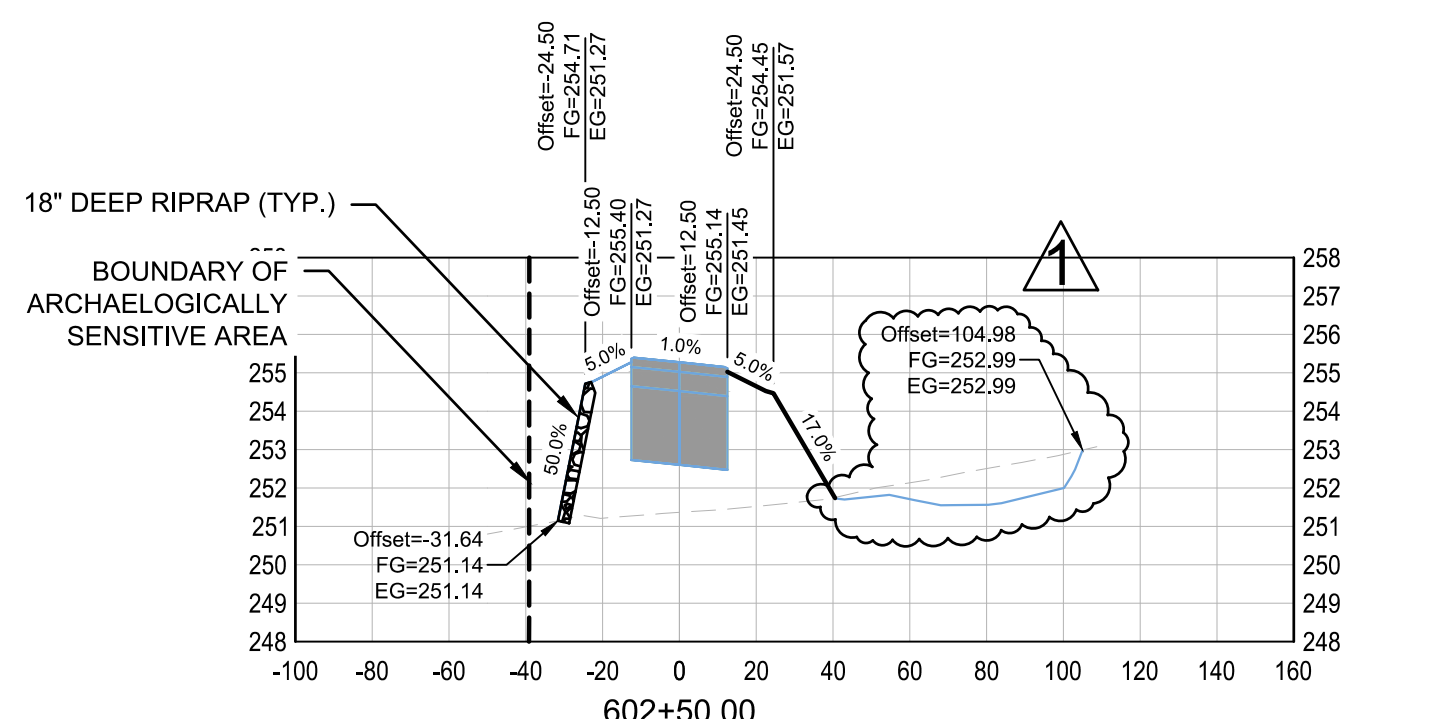
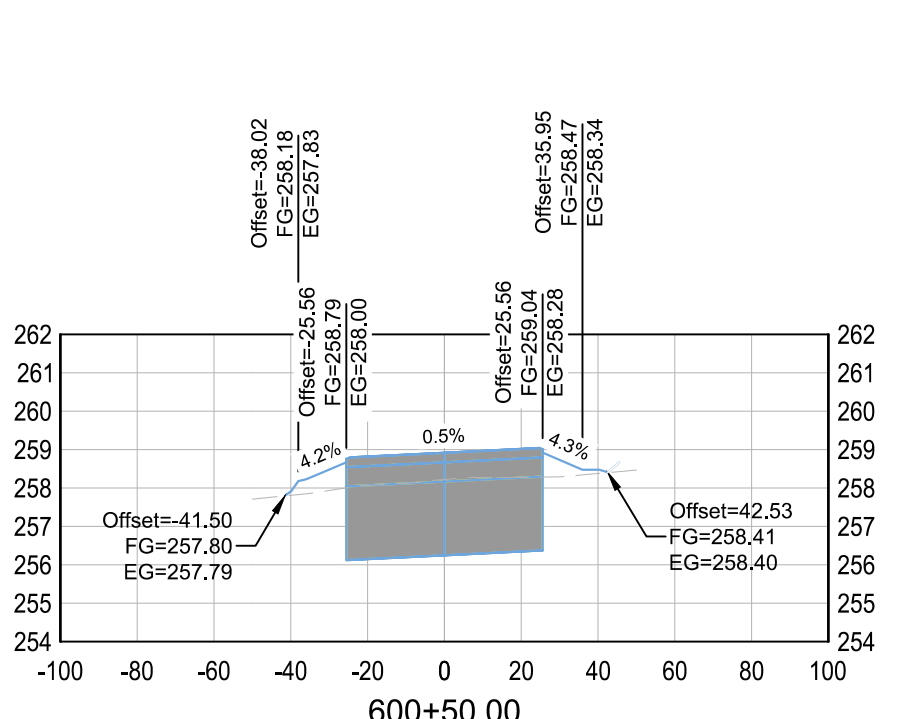
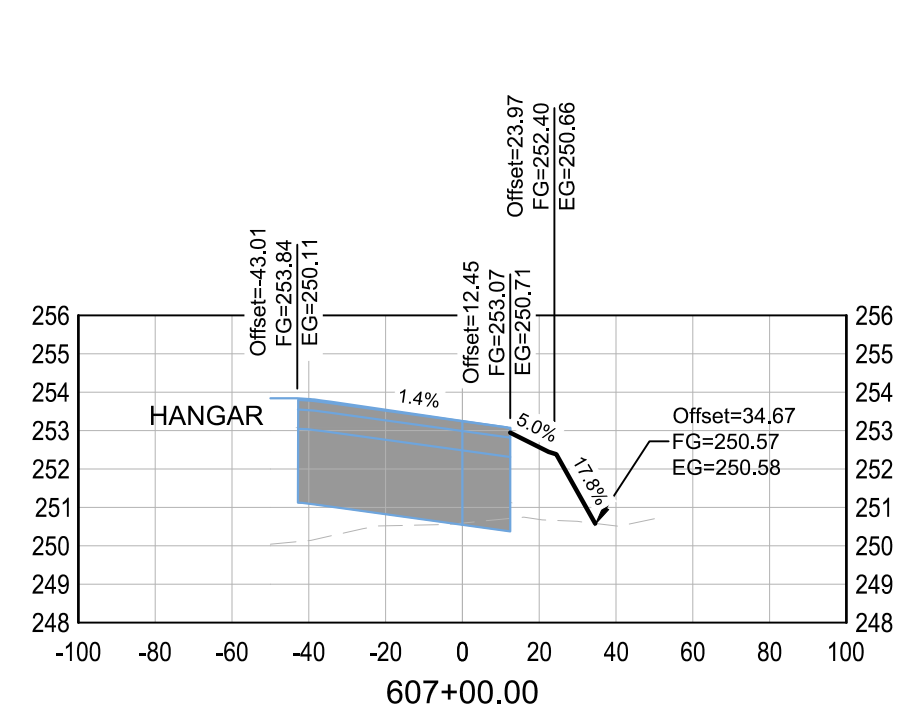
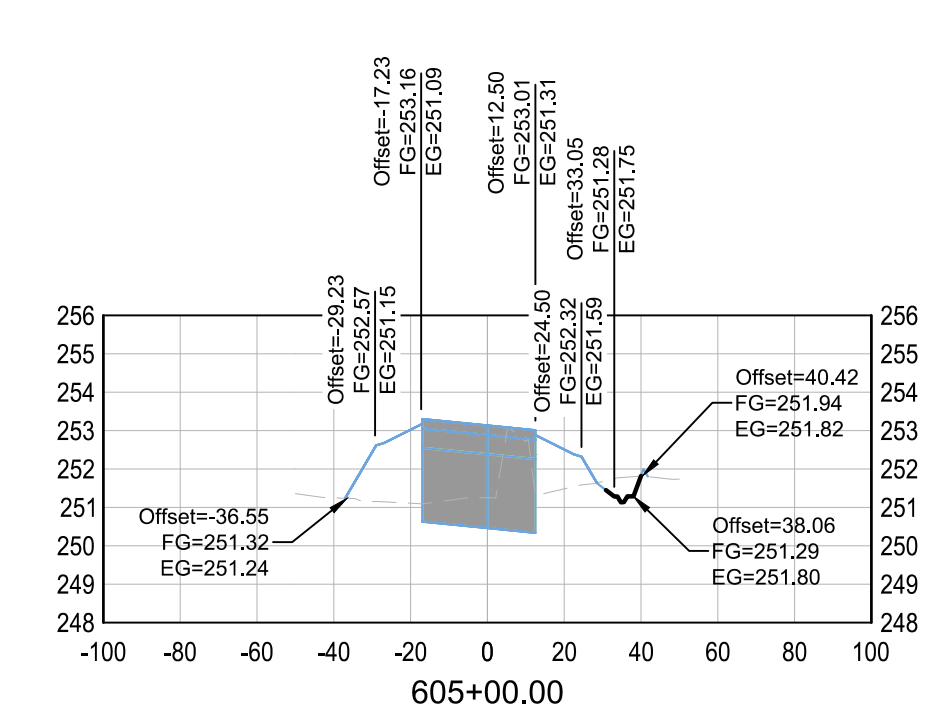
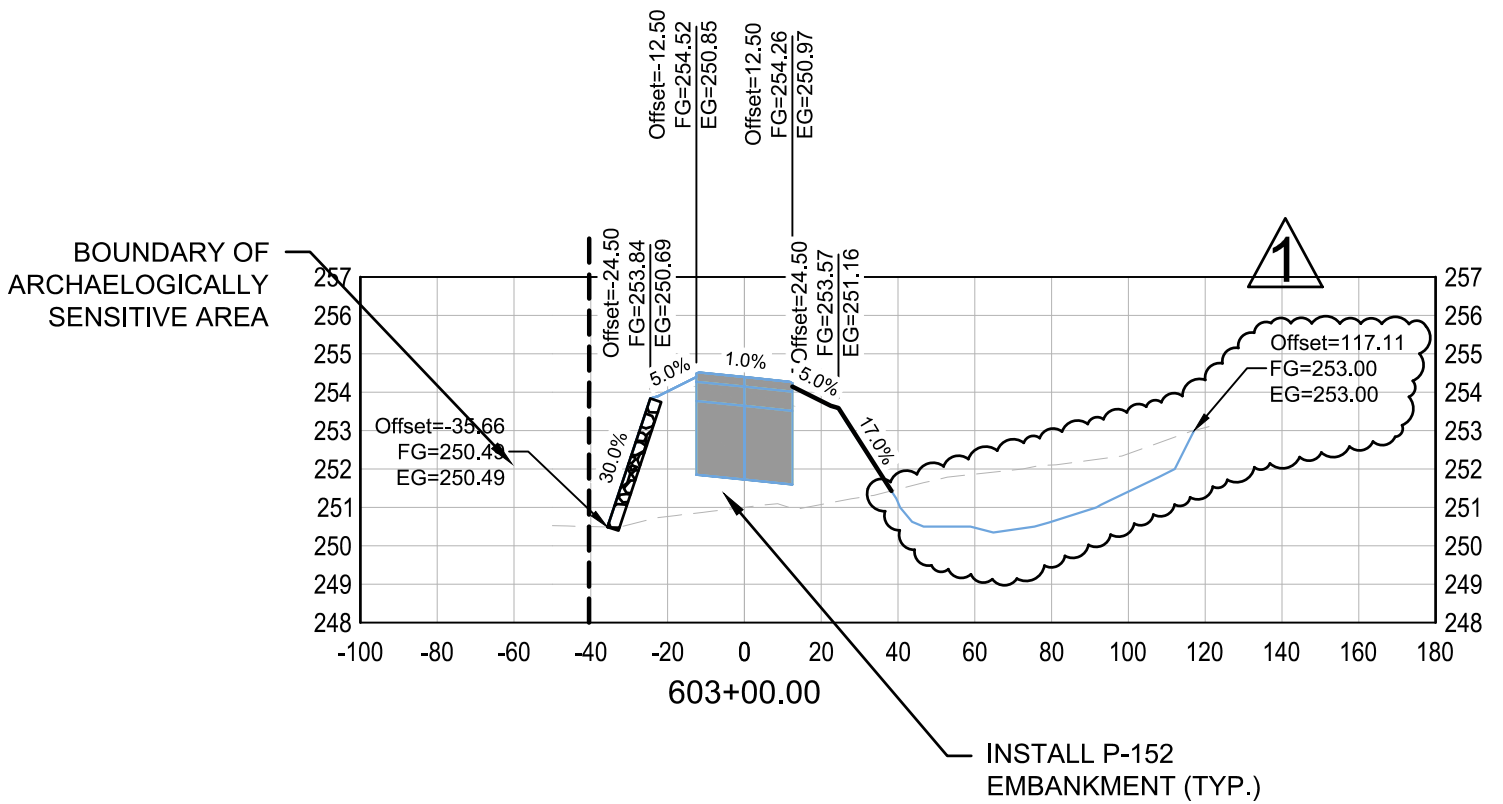
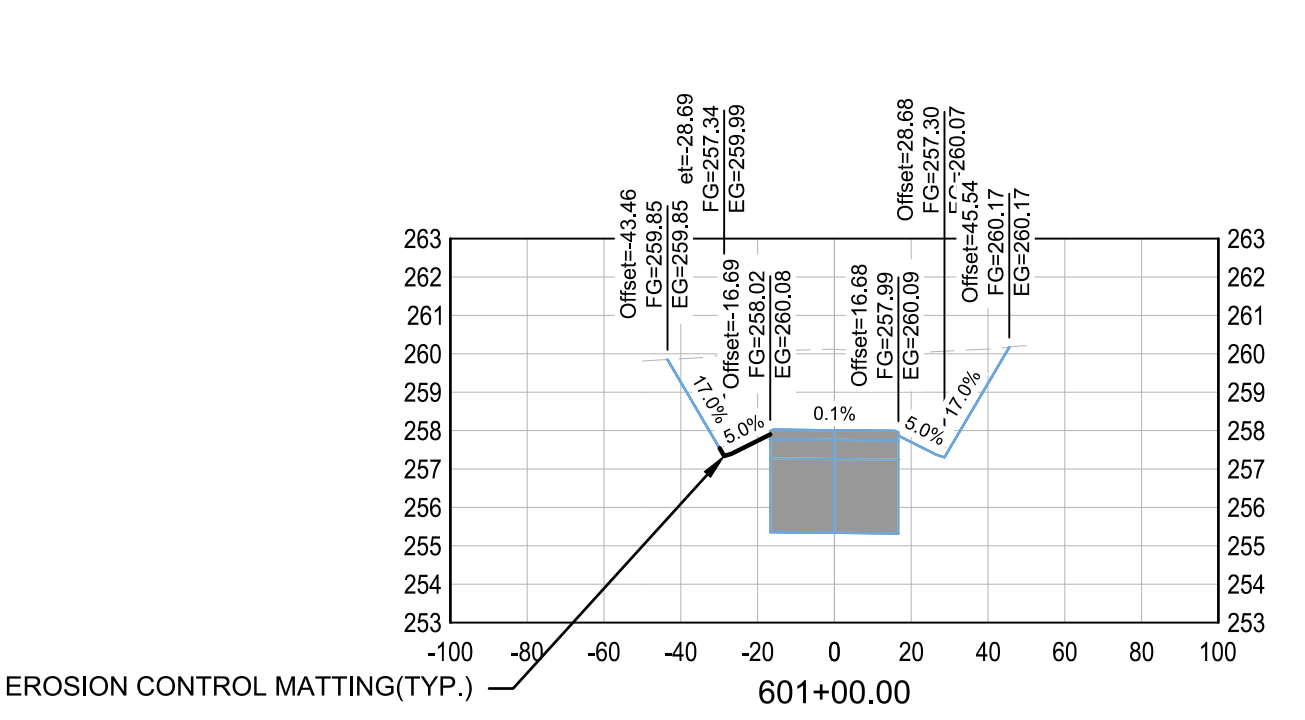
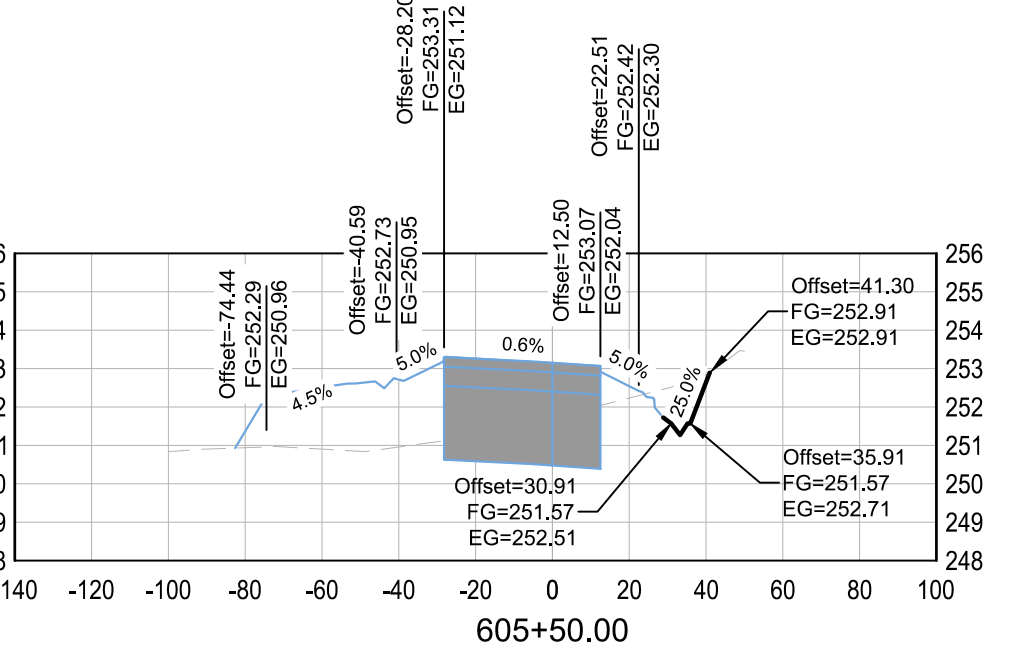
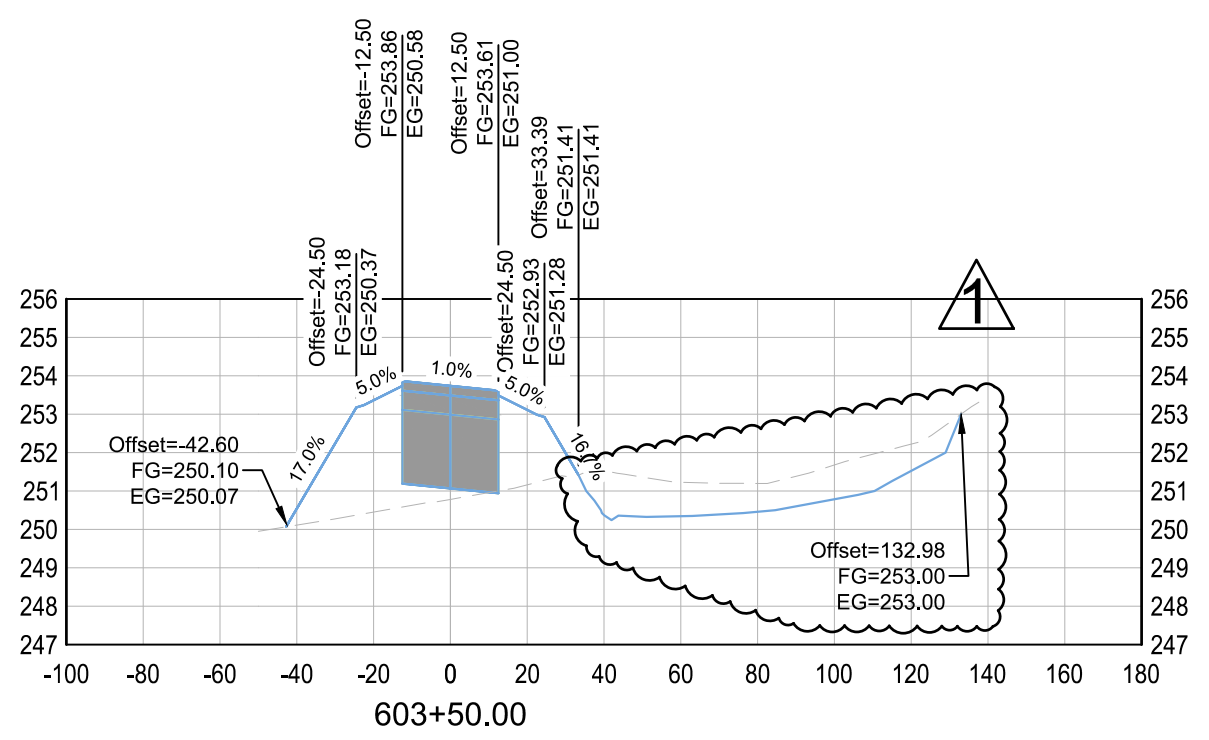
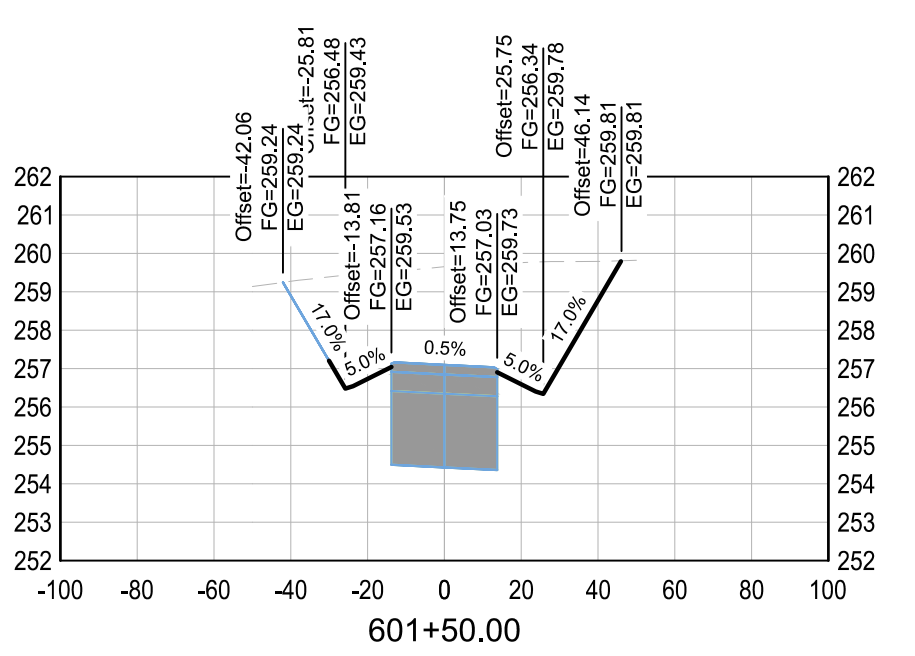
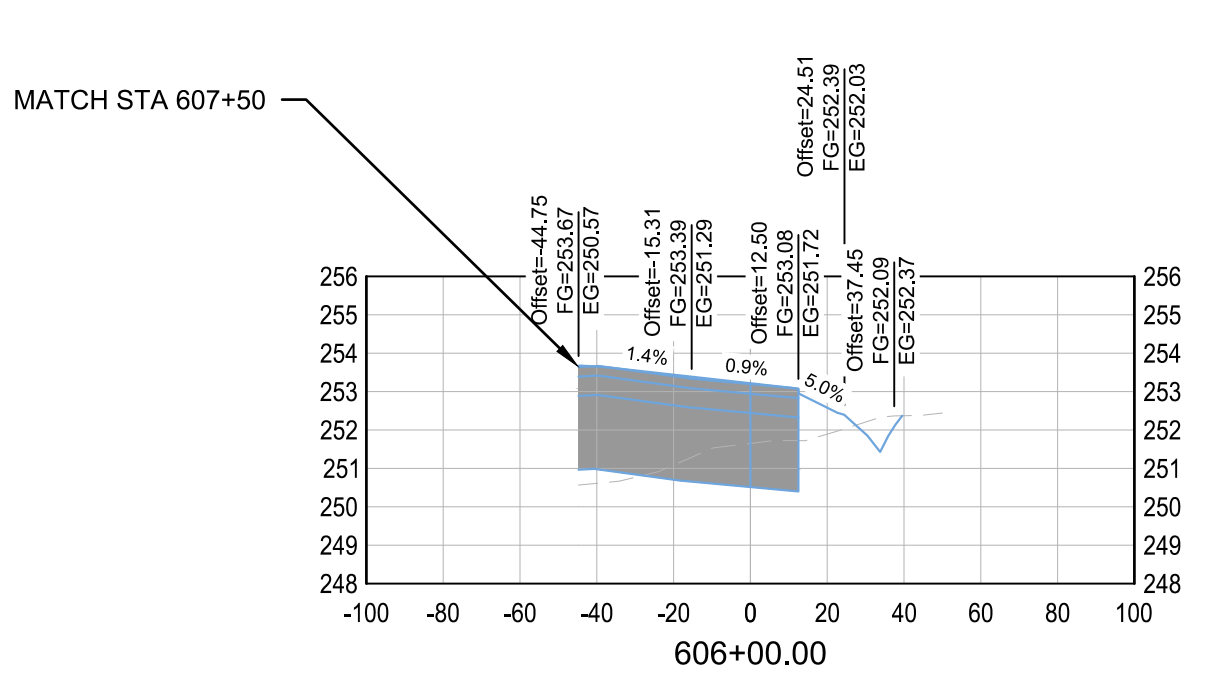
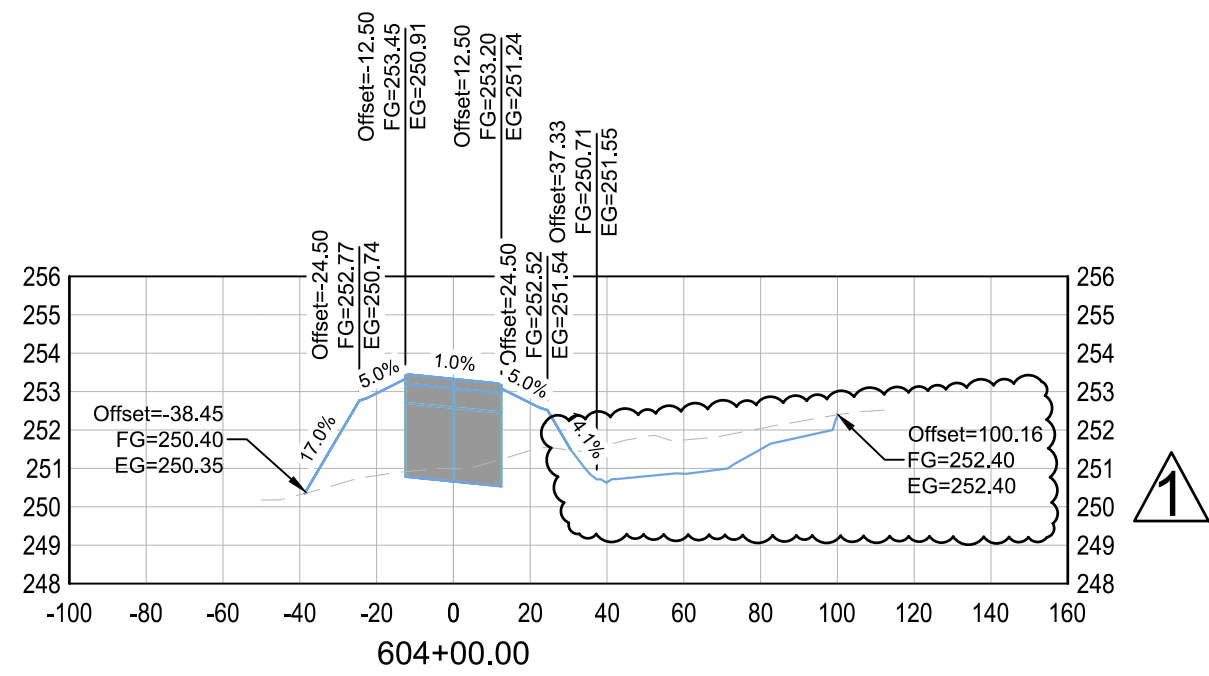
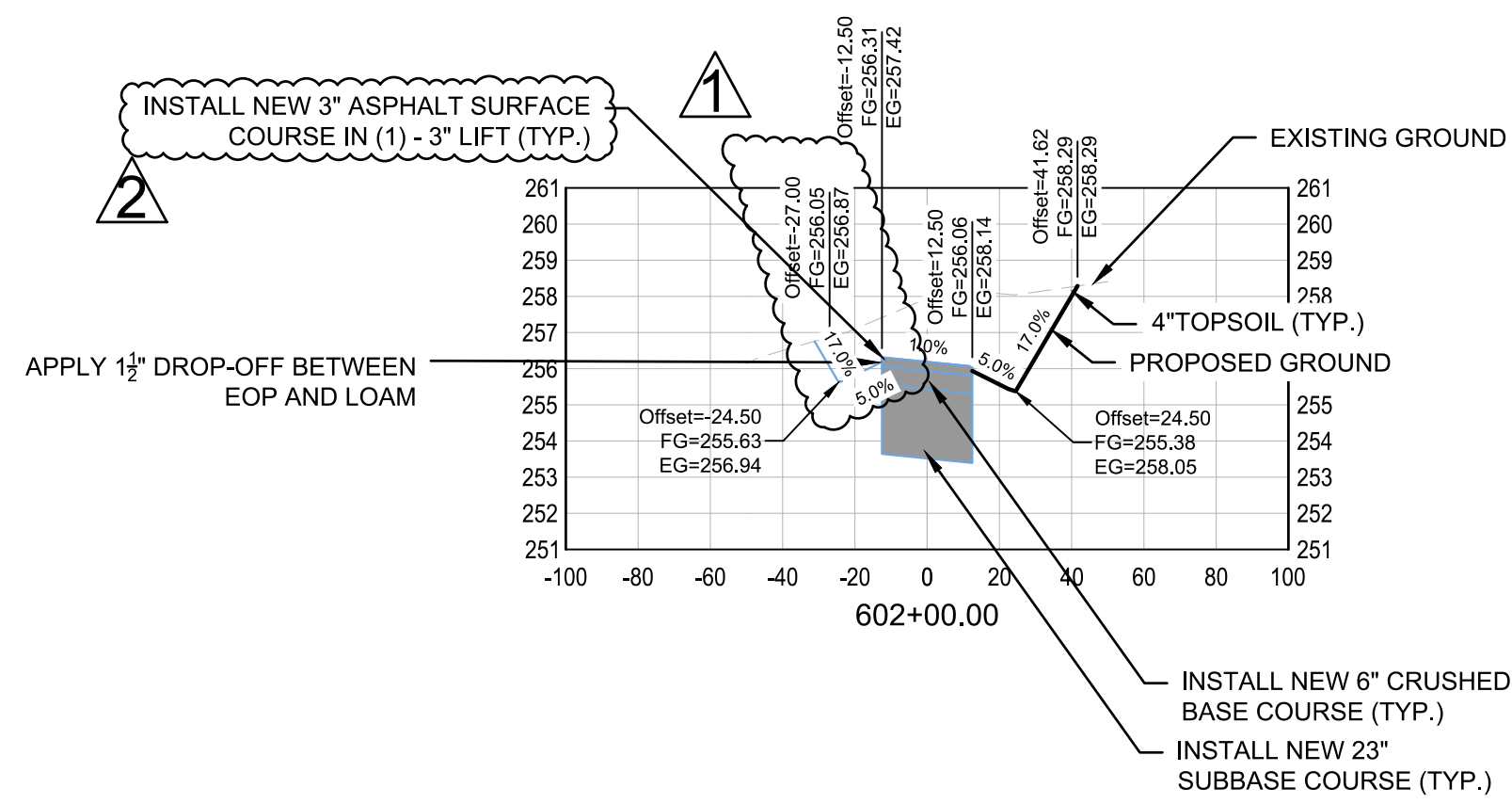
ISSUED FOR BID

No.	Date	Revision
△	12.11.24	ADDENDUM NO.2
△	12.24.24	ADDENDUM NO.3

Job No.: 19186.01
 Drawn By: MRB
 Checked By: JTG
 Issue: ISSUED FOR BID
 Date: 11/21/2024
 Scale: NTS

Drawing Title:
**TYPICAL
 SECTION &
 PAVEMENT
 DETAIL**

Drawing No.:
C-012



Project:

CONSTRUCT NEW T-HANGAR AND TAXILANE

45 FLIGHT LINE DRIVE,
AUBURN, ME 04210

Client:

Auburn-Lewiston
Municipal Airport
80 Airport Drive
Auburn, ME
t. 207.786.0631

McFarland Johnson
53 Regional Drive
Concord, NH 03301

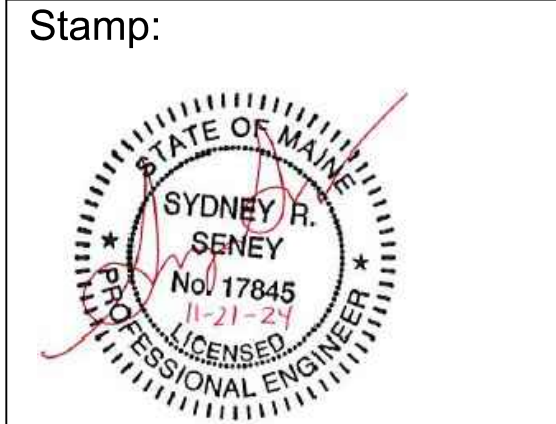
Fennick
McCredie
Architecture

Team:

Architect:
Fennick McCredie Architecture
70 Franklin Street
Boston, Ma 02110
t. 617.350.7900

Structural/MEP Engineer:
McFarland Johnson
49 Court St, Suite 240
Binghamton, NY 13901
t. 607.723.9421

Civil Engineer:
McFarland Johnson
49 Court St, Suite 240
Binghamton, NY 13901
t. 607.723.9421



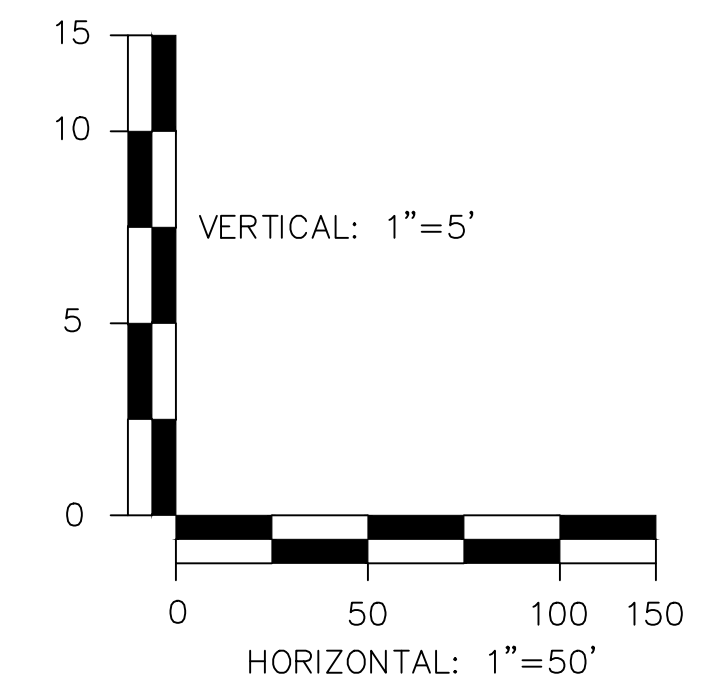
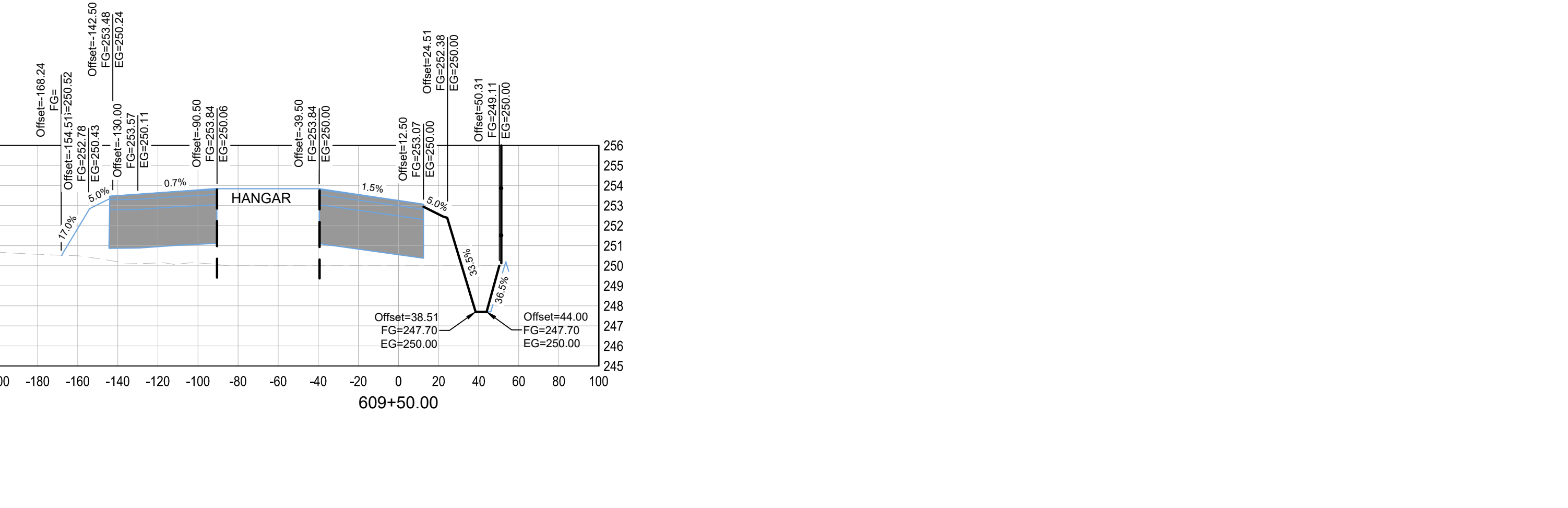
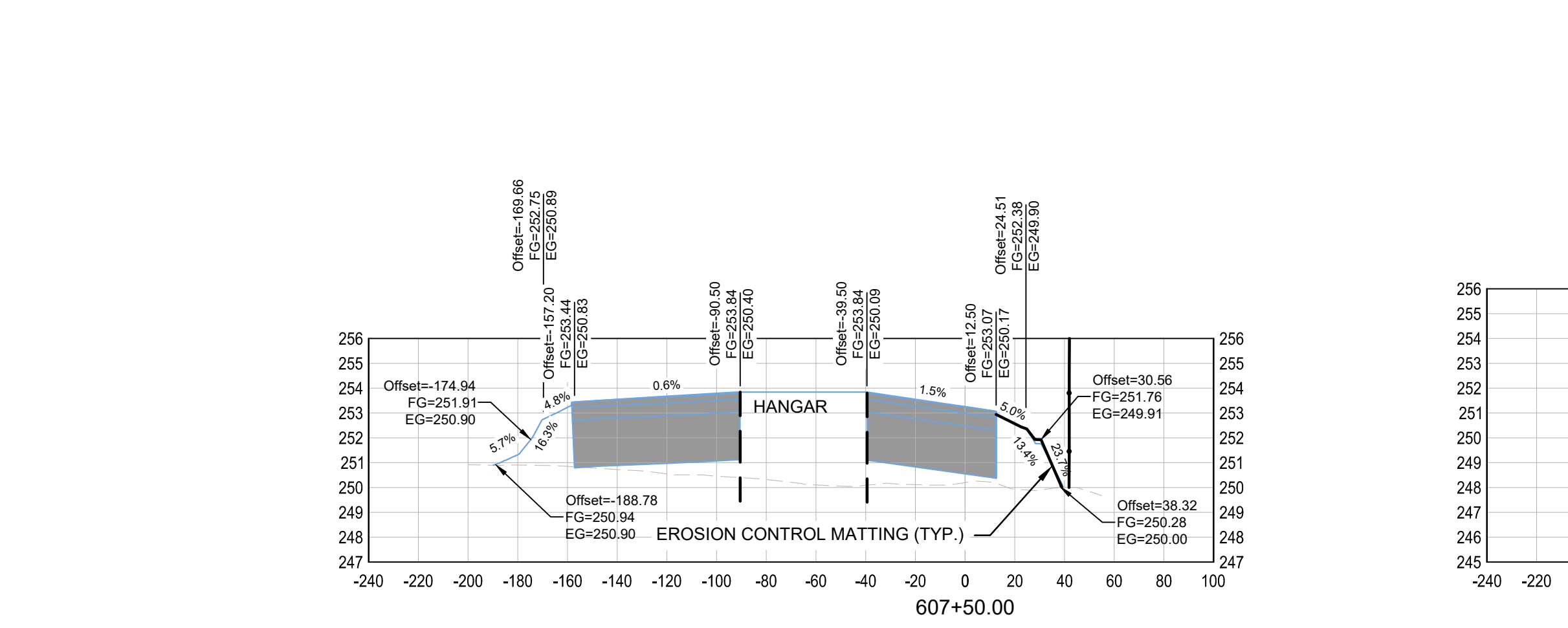
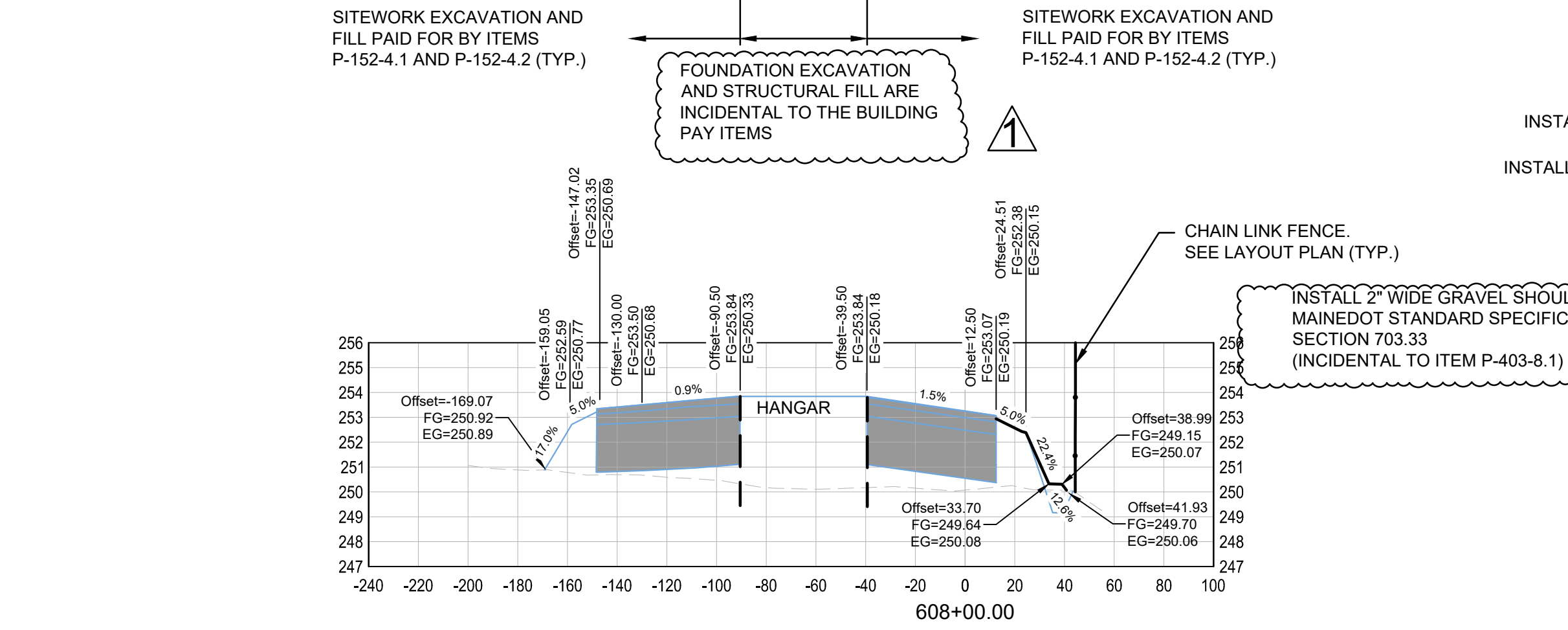
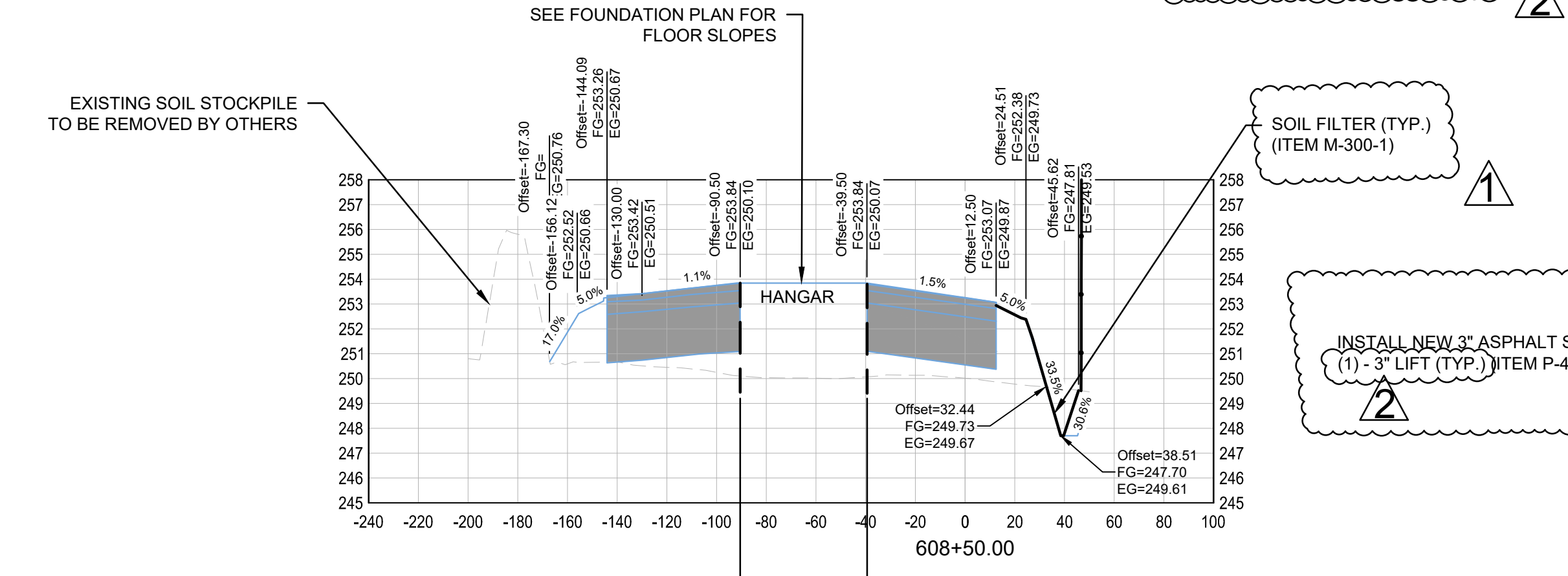
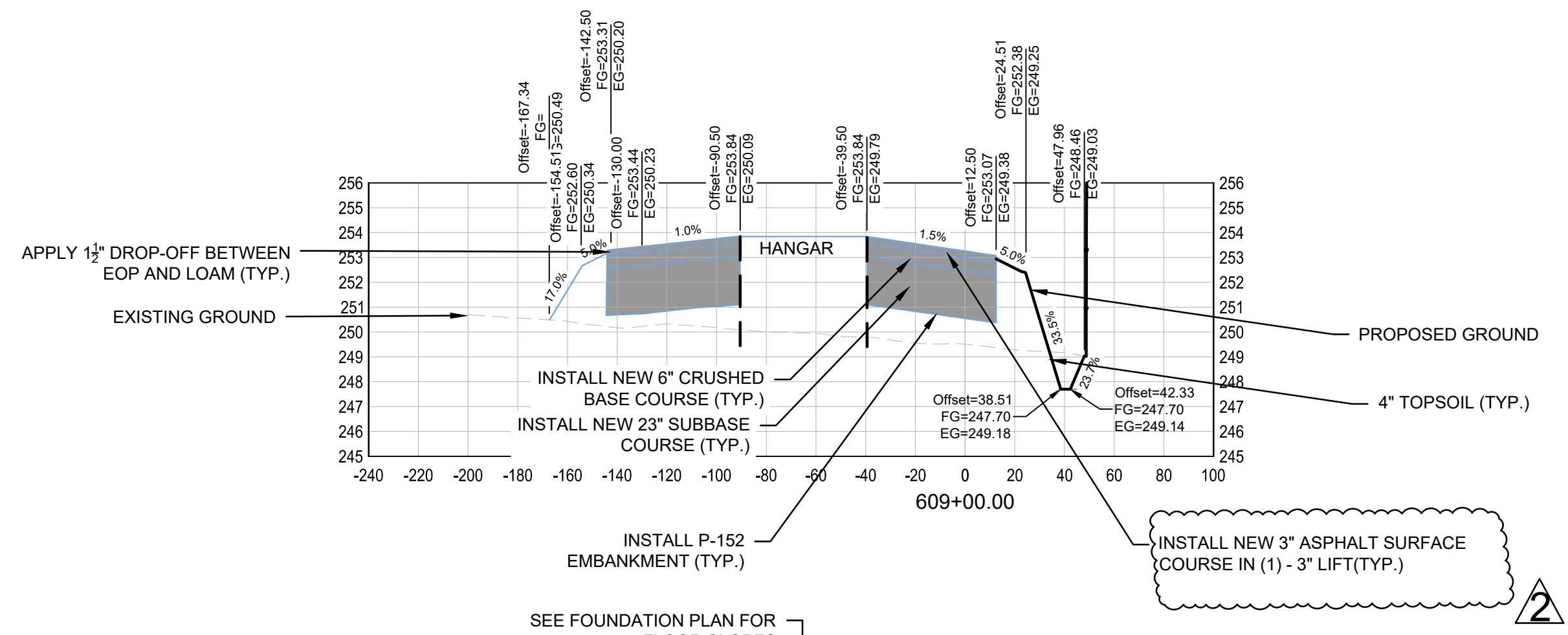
ISSUED FOR BID

No.	Date	Revision
12.11.24	ADDENDUM NO.2	
12.24.24	ADDENDUM NO.3	

Job No.: 19186.01
 Drawn By: MRB
 Checked By: JTG
 Issue: ISSUED FOR BID
 Date: 11/21/2024
 Scale: AS NOTED

Drawing Title:
CROSS SECTIONS
 (SHEET 1 OF 2)

Drawing No.:
C-026



**CONSTRUCT
NEW T-HANGAR
AND TAXILANE**

45 FLIGHT LINE DRIVE,
AUBURN, ME 04210

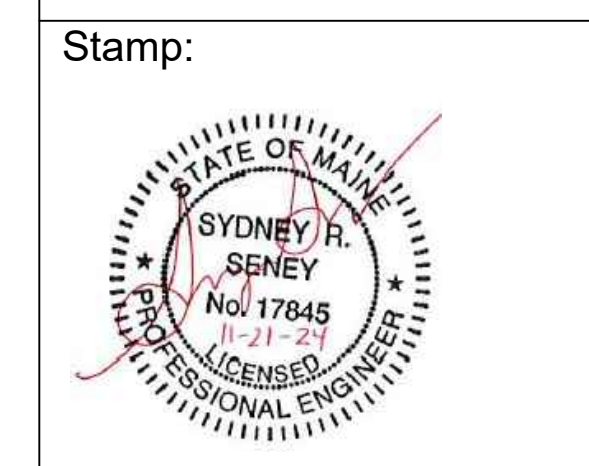
Client:

Auburn-Lewiston
Municipal Airport
80 Airport Drive
Auburn, ME
t. 207.786.0631

McFarland Johnson
53 Regional Drive
Concord, NH 03301

**fmc Fennick
McCredie
Architecture**

Team:
Architect:
Fennick McCredie Architecture
70 Franklin Street
Boston, Ma 02110
t. 617.350.7900
Structural/MEP Engineer:
McFarland Johnson
49 Court St, Suite 240
Binghamton, NY 13901
t. 607.723.9421
Civil Engineer:
McFarland Johnson
49 Court St, Suite 240
Binghamton, NY 13901
t. 607.723.9421



ISSUED FOR BID

No.	Date	Revision
12.11.24		ADDENDUM NO.2
12.24.24		ADDENDUM NO.3

Job No.: 19186.01
Drawn By: MRB
Checked By: JTG
Issue: ISSUED FOR BID
Date: 11/21/2024
Scale: AS NOTED

Drawing Title:
**CROSS
SECTIONS
(SHEET 2 OF 2)**

Drawing No.:
C-027